

AUTHOR INDEX

VOLUME 3

Ahmad, Shahnaz, 436
Alcid, David V., 559
Allen, Lois B., 235, 242, 534
Andrews, Wallach H., 645
Arnold, J. D., 207, 214
Azechi, Hayami, 555

Bach, Michael C., 1
Beaty, Harry N., 488
Becker, Yechiel, 325
Bennett, John E., 95, 649
Berberian, Dieran A., 392
Bernal, E., 682
Bernard, Anthony M., 742
Berry, Paul T., 503
Berti, M., 456
Birner, J., 105, 110
Black, D. R., 198
Blamire, J., 562
Bloch, Konrad, 549
Block, Edward R., 95, 141, 649
Boeck, L. D., 49
Bogin, Eitan, 607
Bower, John D., 125
Boyle, V. James, 418
Bradley, S. G., 599, 686
Brogard, J. M., 19
Bruna, C. Della, 708
Bryan, L. E., 625, 638
Brzezinska, M., 266
Bukhari, A. Q. S., 436

Cabana, Bernard E., 478
Campbell, James N., 289
Canfield, Craig J., 224
Cano, F. R., 716, 723
Carlisle, Harold N., 118, 274
Carr, Howard S., 621
Carrizosa, Jaime, 306
Carson, P. E., 207, 214
Chassy, Bruce M., 310
Cheng, K.-J., 399
Cherby, J., 590
Chow, Anthony W., 412
Clark, Hugh, 262
Clem, G. M., 49
Clyde, D. F., 207, 214, 220
Cole, M., 463
Costerton, J. W., 399
Coward, Joe E., 432, 621
Cronin, T. H., 498
Crowe, Christine C., 24

Daily, O. P., 147
Dajani, Basem M., 451
Daoust, Donald R., 254
Davies, J., 266, 729
DeBaecque, P. J., 682

DeClercq, E., 198
Del Bene, Victor E., 369
De Ratulid, Y., 590
Dietz, A., 425
Dorner, M., 19
Dunning, R. Lynn, 506
Dusart, Jean, 181, 289

Eckstein, F., 198
Eidus, Leslie, 130
Endo, Hideya, 580
Epton, J., 29
Eykyn, Susannah, 657
Ezer, J. I., 585

Faine, S., 15
Falcoff, E., 590
Falcoff, R., 590
Fancher, Marilyn E., 418
Farrar, W. Edmund, Jr., 369
Feiner, Rose R., 432
Ferraro, Frank M., 63
Fiala, Milan, 412
Fietta, A., 456
Finegold, Sydney M., 188
Finland, Maxwell, 1
Fisher, M. W., 134
Fitch, Coy D., 545
Florent, J., 590
Forbes, M., 662
Forsell, P., 110
Forsgren, Arne, 711
Foster, T. J., 99
Frahm, David H., 63
Frère, Jean-Marie, 181
Fujita, Haruhisa, 57
Furusawa, E., 484
Furusawa, S., 484

Gadebusch, Hans H., 270
Galizzi, A., 384
Gang, D. M., 194
Gatenbeck, Sten, 308
Ghuysen, Jean-Marie, 181, 289
Gláz, E. T., 537
Gnarpe, Håkan, 711
Goldberg, Israel, 549
Goldfinger, B., 562
Goodman, Joseph J., 138
Grabow, W. O. K., 175
Gump, Dieter W., 503
Guze, Lucien B., 412, 523

Haegele, P., 19
Hall, Anthony P., 224
Hall, M. J., 380
Hall, T. S., 332
Halprin, Gerald M., 703

Handford, B. O., 380
Handsfield, H. Hunter, 262
Hanka, L. J., 425
Harper, M., 15
Hashimoto, Hajime, 315
Hassall, C. H., 380
Hassert, G. L., 682
Hauser, K. J., 152
Heifetz, C. L., 134
Heinstein, P. F., 357
Hendlin, David, 254
Hewitt, Valerie A., 463
Hodges, Glenn R., 228
Hodgkin, Mary M., 130
Hoffman, W. W., 498
Holmes, King K., 262, 338, 488
Hook, Edward W., 439
Hryniuk, William, 412
Huber, Philip J., 542
Huffman, John H., 235, 242, 534
Hursky, Valentina S., 742
Hyams, Phineas J., 87

Ingram, J. M., 399
Ingram, Lewis C., 279
Ingroff, Ana E., 9
Iyobe, S., 614

Jackson, Julius H., 510
Jacobsen, Peter L., 373
Jenkins, Clare, 657
Jennings, Anne E., 95, 649
Jimenez, A., 729
Johnson, Kenneth, 181, 289
Johnson, Warren D., Jr., 439
Johnston, J. A., 152

Kalmanson, G. M., 523
Kamiya, Tomoya, 580
Kaplan, J. Martin, 143
Karney, Walter, 338, 488
Kasik, John E., 451
Kaye, Donald, 168, 306, 439, 532
Kenig, M. D., 463
Kennedy, G. R., 29
Kennedy, J. F., 29, 575
Khare, Gyaneshwar P., 235, 242, 517
King, Anna, 657
Kinney, J. E., 625
Kirchoff, Carol B., 9
Kobayashi, G. S., 441
Komiyama, Sotaro, 580
Korst, J. J., 498
Krichevsky, Micah L., 310
Kuck, N. A., 662
Kulesza, J. S., 682
Kuo, S.-C., 716, 723

AUTHOR INDEX

Kuwano, Michihiko, 580
 Kwan, C. N., 441
 Kwok, Yung-Yuan, 188
 Lampen, J. O., 716, 723
 Lausch, Robert N., 407
 Laux, David, 407
 Lavillaureix, J., 19
 Leitner, F., 33, 40
 Levinson, Matthew E., 168, 306
 532
 Levy, J., 335
 Levy, Louis, 373
 Leyh-Bouille, Melina, 181
 Lindsey, Edna, 439
 Lockwood, W. R., 125
 Longley, Selden, 506
 Love, Leslie, L., 310
 Lucchi, Chantal, 181
 Lunel, J., 590
 Luscombe, D. K., 677
 McCall, John W., 693
 McCarthy, Vincent C., 220
 McCay, L. Steven, 247
 McCracken, George H., Jr.,
 143, 343
 McCullough, Jerry L., 665
 MacDonald, Bruce S., 224
 McLean, I. W., Jr., 74
 McMahon, Samuel M., 703
 Madsen, Paul O., 81, 469
 Magee, Lyman A., 645
 Mahlberg, Paul, 247
 Mahon, W. A., 585
 Malarezy, V., 445
 Marecki, Nelda M., 599
 Maren, Thomas H., 665
 Marmur, J., 562
 Marquet, Alberto, 181
 Martin, D. C., 207, 214
 Matrishin, Mary, 138
 Mazza, G., 384
 Medoff, Gerald, 441
 Merigan, T. C., 198
 Michels, C. A., 562
 Miller, F. A., 74
 Miller, R. M., 207, 220
 Minghetti, A., 384
 Minshew, Barbara H., 568
 Miraglia, Gennaro J., 270, 474
 Misiek, M., 33, 40
 Mitsuhashi, Susumu, 315, 614
 Moellering, Robert C., Jr., 526
 Moheimani, Mohammad, 118,
 274
 Montgomerie, J. Z., 523
 Moreno, Ramon, 181
 Mössinger, E. U., 445
 Naber, Kurt G., 81, 469
 Nelson, John D., 343
 Neu, Harold C., 542
 Neuman, David A., 224

ANTIMICROB. AG. CHEMOTHER.

Niblack, J. F., 498
 Nicholls, P. J., 677
 Nicolls, Joan M., 105, 110
 Nieto, Manuel, 181
 Ninet, L., 590
 Ninomiya, Kiyoji, 555
 Odakura, Yoshihiro, 315
 Onishi, H. Russell, 254
 Owens, D. R., 677
 Perkins, Harold R., 181
 Perkins, Robert L., 228
 Phillips, D. A. S., 380
 Phillips, Ian, 657
 Pinney, R. J., 670
 Pittillo, Robert F., 739
 Price, K. E., 33, 40, 742
 Prozesky, O. W., 175
 Pursiano, T. A., 33, 40
 Raczyńska-Bojanowska, Kon-
 stancja, 162
 Rafalski, Andrzej, 162
 Rahal, James J., Jr., 87
 Ramanathan, S., 484
 Rebert, Cletus C., 220
 Reed, Sylvia E., 332
 Rees, A. V., 380
 Reller, L. Barth, 488
 Renz, Kathleen J., 270, 474
 Ricciardi, M. L., 708
 Richmond, M. H., 279
 Rieckmann, K. H., 207, 214
 Ries, Kristen, 168, 532
 Riva, S., 456
 Robins, Roland K., 235, 242, 517
 Romero, E., 456
 Ronald, Allan, 412
 Rose, N. R., 335
 Rose, W. C., 686
 Rosenblum, E. D., 568
 Rosenkranz, Herbert S., 325,
 432, 530, 621
 Ross, Richard W., Jr., 418
 Rubin, Fran A., 68
 Ruczaj, Zbigniew, 162
 Russell, A. D., 677
 Sabath, Leon D., 1
 St. Geme, Joseph, Jr., 412
 Saito, T., 614
 Sanders, Eugene, 24
 Sands, L. C., 299
 Sanfilippo, A., 708
 Saslaw, Samuel, 118, 274
 Sawnor-Korszyńska, Danuta,
 162
 Schlamm, N. A., 147
 Schlessinger, D., 441
 Scholand, Joseph F., 228
 Seligman, Stephen J., 559
 Semaka, Shirley D., 625
 Seshachalam, Dutta, 63
 Shadomy, S., 9
 Shaikh, Khadija, 194
 Shani, Jashovam, (Mishkin-
 sky), 607
 Shaw, James A., 224
 Shaw, W. V., 99, 299
 Shimizu, Takeshi, 555
 Siecardi, A., 384
 Sidwell, Robert W., 235, 242,
 517, 534
 Sierankiewicz, Julian, 308
 Silvestri, L. G., 456
 Simberkoff, Michael S., 87
 Siminoff, Paul, 742
 Simon, Lionel N., 242, 517
 Simon, V. K., 445
 Singh, A. P., 399
 Sinha, D. P., 682
 Slighter, Ralph G., Jr., 392
 Sloan, B. J., 74
 Smith, David H., 68
 Smith, J. T., 670
 Snyder, Edward, 143
 Soto, A. J., 332
 Sreevalsan, T., 642
 Stankewich, Joseph P., 364
 Stapley, Edward O., 254
 Stóger, Ivana, 537
 Sulman, Felix Gad, 607
 Sutter, Vera L., 188
 Suzuki, N., 484
 Sykes, R. B., 279
 Szolgay, Erika, 537
 Taggart, James G., 478
 Tálas, Margarita, 537
 Talati, P. G., 194
 Tanaka, Tokumitsu, 315
 Tani, S., 484
 Terakado, Nobuyuki, 555
 Thiel, Teresa, 136, 350
 Thomas, Marion L., 343
 Thompson, John S., 451
 Thompson, Paul E., 693
 Tipper, D. J., 729
 Tissier, R., 590
 Traina, V. M., 682
 Tseng, J. T., 638
 Tuli, V., 157
 Tun, H., Cho, 575
 Turck, Marvin, 262, 338, 488
 Umberger, H. E., 510
 Upton, Ronald P., 364
 Van Den Elzen, H. M., 625
 Vuillemin, B., 590
 Wahid, Mukhtar A., 436
 Waldman, Robert H., 506
 Walker, James R., 549
 Wallace, James F., 262
 Wallick, Hyman, 254
 Walser, J., 357

Weil, Marvin L., 412
Weinstein, Allen J., 526
Wennersten, Christine, 526
Wentworth, Berttina B., 698
Werner, G. H., 590
Westenfelder, Silvia R., 469
Westhead, J. E., 49

Whitehouse, R. L. S., 625
Wicher, K., 335
Wilkins, T. D., 136, 350
Willerson, D., Jr., 207, 214
Wilson, M. M., 49
Wilson, T. W., 585
Winshell, Elaine B., 542

Witkowski, Joseph T., 235, 242
517
Woolley, Carolyn, 739

Zabransky, R. J., 152
Zeigler, Julianne B., 693
Ziv, Gideon, 607

SUBJECT INDEX

VOLUME 3

A9145
new adenine-containing antifungal antibiotic, 49

Acidimetric method
use for assay of R factor β -lactamases, 68

Acaril
antiviral activity, 537
interferon-like substance induction, 537

Acridine orange
curing of F episome by, 456

Actinomycin D
susceptibility of *P. aeruginosa* to, 399

DL-Alanosine concentration assay, 739

Alternaria tenuis
production of tenuazonic acid analogues by, 308

Amino acid analogues
action against influenza virus infection, 57

Aminocyclitol antibiotics
in vitro susceptibility of *Enterobacteriaceae* and *Pseudomonas*, 338

Aminoglycosides
N. asteroides susceptibility to, 1
phosphorylation of, 266
serum half-life in normal and anephric patients, 125

Aminoglycosides, new
BB-K8, 338, 478, 532
Seh 13706, 87
sisomicin, 24, 87

6-Aminopenicillanic acid
method for estimation of, 194

¹⁴C-amodiaquin
P. falciparum binding, 545

Amoeba cultures
use of antibiotics to minimize contamination, 310

Amoxicillin
new penicillin, 262

Amphotericin B
bleomycin potentiation, 580
chromomycin A3 potentiation, 580
5-fluorouracil potentiation, 580
use to control urinary tract infections due to *Candida albicans*, 474

Ampicillin
comparison with amoxicillin, 262
comparison with carbenicillin against isolates from newborn infants, 343
comparison with hetacillin, 15
treatment of chronic typhoid carriers, 439

Anaerobes
susceptibility testing of, 152, 188, 350

Antibiotic activity
fast method for measuring, 15

Antibiotic assay
Gentamicin, 559

Antibiotic coupling
cellulose, 698
cellulose carbonate, 575

Antibiotic susceptibility testing
broth-disk method for anaerobes, 350
modified Kirby-Bauer method, 418

Antibiotics, insoluble
poly(salicylic acids) in preparation of, 29

Antifungal antibiotics
A9145, 49
fermentation conditions for production, 40
Passicol, 105, 110

Antimetabolite antibiotic
production and activity of U-42, 126, 425

Antitumor metabolites of cyclophosphamide
tissue culture assay for, 407

9- β -D-Arabinofuranosyladenine
susceptibility of herpes simplex viruses to, 74

Asclepias syriaca
antibacterial activity of latex from, 247

Assay of antibiotics
effect of medium on drug activity, 33, 40
influence of methodology on apparent concentrations in tissue, 143

Assay of β -lactamases
acidimetric method for, 68

Axenomycins, 708

Bacillus subtilis
interaction of DNA and distamycin A in, 384

Bacterial endotoxin
synergistic toxicity, 686

Bacteroides fragilis
antibiotic activity against, 152, 188
cephalosporinase activity in, 369
activity against *Enterobacteriaceae* and *Pseudomonas*, 338
comparison of pharmacokinetics with kanamycin, 478
comparison with tobramycin and gentamicin, 532

Benzylpenicillin G
distribution in serum and milk, 607

Biliary infections
cephacetrile therapy of, 19

BL-20803
interferon inducer, 742

Bleomycin
amphotericin B potentiation of, 580
polymyxin B potentiation of, 580

BL-S 339
new cephalosporin, 40

Bordetella bronchiseptica
R factor demonstration in, 555

Bromomonamycins
unnatural analogues of monamycin cyclodepsipeptide antibiotics, 380

Broth-disk method
test for susceptibility of anaerobes, 350

Candida
activity of 5-fluorocytosine against, 9

Candida albicans
urinary tract infections caused by, 474

Carbenicillin
comparison with ampicillin against isolates from newborn infants, 343
resistance of *P. aeruginosa* from burns, 279
turbidimetric bioassay for, 364
use with colistin in *Pseudomonas* sepsis, 118
use with gentamicin in *Pseudomonas* sepsis, 274

DD-Carboxypeptidase-transpeptidase
killing site of β -lactam antibiotics, 181

Cefamandole
antibacterial activity, 657
comparison with other cephalosporins, 657

Cefazolin
comparison with cephalothin, 168
evaluation of, 488

Cellulose
antibiotic coupling, 575

Cellulose carbonate
antibiotic coupling, 575

Cephacetrile
biliary excretion of, 19
clinical evaluation of, 228
experimental study in dogs, 81
new cephalosporin B, 677

Cephalexin
comparison with cefamandole, 657
respiratory infections, 703

Cephaloridine
comparison with cefamandole, 657

Cephalosporin
pharmacokinetic studies in animals, 677
pharmacokinetic studies in humans, 677

Cephalosporinase
activity in *B. fragilis*, 369

Cephalosporins
comparison with cephamecins, 254
effect of assay medium on activity, 33
N. asteroides susceptibility to, 1
renal handling and lymph concentration in dogs, 81

Cephalosporins, new
BL-S 339, 40
cefazolin, 168, 488
cephacetrile, 19, 81, 228
cephapirin, 306
cephradine, 270

Cephalothin
comparison with cefamandole, 657
phlebitis caused by, 306

Cephamecins
antibacterial activity, 254
resistance to β -lactamase, 254

Cephapirin
phlebitis caused by, 306

Cephradine
comparison with cephalothin and cephaloridine, 270
pathological studies, 682
teratological responses in animals, 682
toxicity for animals, 682

Ceruleulin
lipid synthesis inhibition in *E. coli*, 549

Cestocidal antibiotics
axenomycins, 708

Chlamydia subgroup A
gentamicin treatment, 698
isolation, 698

Chloramphenicol
activity against *B. fragilis*, 152, 188
distribution in serum and milk, 607
mechanism of resistance in staphylococci, 299

Chloramphenicol acetyltransferase
four types from clinical isolates of staphylococci, 299
types specified by f^- and f^+ R factors, 99

Chlorination in *Streptomyces aureofaciens* inhibition by nitriles, 138

Chloroquine
P. falciparum binding, 545
use in combination with pyrimethamine and sulfamethoxydiazine, 392

Chromomycin A3
amphotericin B potentiation of, 580
polymyxin B potentiation of, 580

Chromosomal resistance in *P. aeruginosa*, 638

CIBA 36, 278-BA
see Cephacetrile

Cladosporiosis
therapy with 5-fluorocytosine, 95

Clindamycin
activity against *B. fragilis*, 152, 188
resistance of *Clostridium* to, 136

Clostridium
resistance to clindamycin, 136

Clostridium sporogenes
susceptibility to valinomycin, 63

Coliform bacteria in sewage
drug resistance of, 175

Colistin
use with carbenicillin in *Pseudomonas* sepsis, 118

CP-20, 961
antiviral activity of, 498

Cryptococcus neoformans
5-fluorocytosine resistance in, 649

7-Cyanacetamidocephalosporanic acid
sodium salt of, 677

Cyclophosphamide metabolites
microassay for activity of, 407

Cytosine arabinoside
effect against herpes simplex encephalitis, 412

Deoxyribonucleic acid-dependent ribonucleic acid polymerase
lomofungin treatment of *E. coli*, 723

Deoxyribonucleic acid-dependent ribonucleic acid thiolutin treatment of *S. cerevisiae*, 729

Deoxyribonucleic acid viruses
effect of Virazole on, 235, 242

Dictyostelium discoideum
growth in presence of antibiotics, 310

Diethylcarbamazine
compared with 3-ethyl-8-methyl-1,3,8-triaza-bicyclo[4.4.0]decan-2-one, 693

Dihydropteroate synthetase
inhibition by sulfonamides, 000
inhibition by sulfones, 665

Dihydrostreptomycin
distribution in serum and milk, 607

N,N-Dioctadecyl-*N',N'*-bis(2-hydroxyethyl)propane-diamine, antiviral activity of, 498

Distamycin A
interaction with DNA in *B. subtilis*, 384

Encephalitis due to herpes simplex virus
treatment with 9- β -D-arabinofuranosyladenine, 74
treatment with cytosine arabinoside, 412

Encephalitis due to herpes simplex virus treatment with Virazole, 242

Encephalomyocarditis infection
effect of tobacco smoke condensate on, 484

Endotoxin
combinations and enhanced toxicity, 599
toxicity enhancement, 599
toxicity enhancement of pactamycin, 686

Enterococci
discrepancy between carbenicillin and ampicillin activities against, 343
drug synergism against, 526

Erythromycin
activity against *B. fragilis*, 152, 188
biosynthesis of, 162

Escherichia coli
cerulenin lipid synthesis inhibition in, 549
dihydropteroate synthetase from, 665
ketomycin resistance in, 510
macarbomycin treatment, 614
R factor curing, 670
sex pili mutants, 614
Trimethoprim treatment, 670

N-Ethylmaleimide
bactericidal action of, 157

3-Ethyl-8-methyl-1,3,8-triaza-bicyclo[4.4.0]decan-2-one
compared with diethylcarbamazine, 693

F episome
curing by acridine orange in *E. coli*, 456
curing by rifampin in *E. coli*, 456

Fermentation conditions
effect on antibiotic biosynthesis, 49

5-Fluorocytosine
activity against *Candida* and *Torulopsis*, 9
effect of hepatic function on serum concentration, 141
in therapy of cladosporiosis and sporotrichosis, 95
resistance in *C. neoformans*, 649

5-Fluorouracil
amphotericin B potentiation of, 580
polymyxin B potentiation of, 580

Fungi
action of *Juglans* against, 436
5-fluorocytosine activity against, 95

Gentamicin
activity against *Enterobacteriaceae* and *Pseudomonas*, 338
chlamydia isolation, 698
comparison with sisomicin, 24, 87
comparison with tobramycin and BB-K8, 532
pharmacokinetics of, 445
serum half-life in normal and anephric patients, 125
synergism with penicillin, 526
use with carbenicillin in *Pseudomonas* sepsis, 274

Genitamicin assay, 559
serum concentration, 585

Hepatic function
effect on 5-fluorocytosine in serum, 141

Herpes simplex virus
effect of cytosine arabinoside against, 412
reversible inhibition by hydroxyurea, 325
susceptibility to 9- β -D-arabinofuranosyladenine, 74
susceptibility to Virazole, 242

Hetacillin
action independent of ampicillin, 15

Hospital waste water
drug-resistant coliforms in, 175

Host-defense mechanism
tetracycline, 711

Hydrocarpic acid
inhibition of mycobacterial multiplication by, 373

Hydroxyurea
effect on *S. epidermidis* and *M. lysodeikticus*, 432
inhibition of herpes simplex virus by, 325

Illudin S
mode of action, 357

Immune response
effect of rifampin on, 451

Influenza virus infection
action of amino acid analogues against, 57
effect of isoprinosine against, 506
effect of Virazole against, 517

Insoluble antibiotics
poly(salicylic acids) in preparation of, 29

Interbacterial transfer
R factor, 542

Interferon
failure of Virazole to stimulate, 534
stimulation by CP-20, 961, 498

Interferon inducer
BL-20803, 742

Interferon inducers
toxicity of polynucleotides, 198

Interferon-like substance induction
Acranil, 537
Quinacrine, 537

Isoniazid inactivators
urine test for phenotyping of, 130

Isoprinosine
effect against influenza virus, 506
effect against rhinovirus infections, 332

Juglans
fungistatic action of, 436

Kanamycin
activity against *Enterobacteriaceae* and *Pseudomonas*, 338
comparison of pharmacokinetics with BB-8K, 478
phosphorylation of, 266

Ketomycin
resistance in *E. coli*, 510

Klebsiella pneumoniae
tetracycline-inhibited respiration, reversal of, 645

L-forms
synergism of polymyxin and sulfonamides against, 523

β -Lactam antibiotics
killing site in *Streptomyces*, 181
resistance of *B. fragilis* to, 369

β -Lactamase
classes produced by R factors, 68
exocellular forms from *Streptomyces* strains, 289
resistance of cephamycin C to, 254

Latex from *Asclepsia syriaca*
antibacterial activity of, 247

Lincomycin
activity against *B. fragilis*, 152, 188

Lineomycin analogues
N. asteroides susceptibility to, 1

Lipid synthesis inhibition
by cerulenin, 549
in *E. coli*, 549

Listeria
discrepancy between carbenicillin and ampicillin activities against, 343

Litomosoides carinii
diethylcarbamazine against, 693
3-ethyl-8-methyl-1,3,8-triazabicyclo[4.4.0]-decan-2-one against, 693

Lomofungin
DNA-dependent RNA polymerase, 723
enzyme-formation, 716
E. coli, 723
RNA synthesis, inhibition of, 716

Saccharomyces, 716, 723

Macarbomycin
E. coli mutant, 614
sex pili mutants, 614

Macrolide antibiotics
biosynthesis of, 162

Malaria
therapy with drug combinations, 392
treatment with a phenanthrene methanol, 207, 220, 224
treatment with a quinoline methanol, 214, 220, 224

Mengo virus RNA
compared with poly I:C, 590

3-Methyleneoxindole
bactericidal action of, 157

Micrococcus lysodeikticus
effect of hydroxyurea on, 432

Minocycline
N. asteroides susceptibility to, 1

Minocycline uptake, 662

Miracil D
inhibition of DNA polymerase deficient *E. coli*, 530

Monamycin cyclodepsipeptide antibiotics
unnatural analogues of, 380

Mycobacteria
inhibition by hydnocearpic acid, 373

Nalidixic acid
effect on *S. cerevisiae*, 562

Nebramycin factor 6
see Tobramycin

Neisseria gonorrhoeae
susceptibility of isolates from a rural area, 503
susceptibility to spectinomycin, 335

Neomycin
phosphorylation of, 266

Neomycin-kanamycin phosphotransferases
enzymes phosphorylating aminoglycosides, 266

Nitriles
inhibition of chlorination by, 138

Nocardia asteroides
in vitro drug susceptibility, 1

Pactamycin
with bacterial endotoxin, 686

Passicoll
antibacterial and antifungal agent, 105, 110

Passiflora plant species
antibacterial and antifungal agent produced by, 105, 110

Penicillin
activity against *B. fragilis*, 152, 188
synergism with tobramycin and gentamicin, 526

Penicillin binding
effect of elevated atmospheric pressure on, 147

Penicillinase
effect on hetacillin and ampicillin, 15
hypersynthesis by R factor mutants, 315

Penicillins
determination of 6-aminopenicillanic acid in presence of, 194
effect of assay medium on activity, 33
metabolism in humans, 463
N. asteroides susceptibility to, 1

Penicillins, new
amoxicillin, 262

Penicilloic acids
metabolism of penicillins to, 463

Permeability of animal cells
control by polyenes, 441

Phenanthrene methanol
treatment of acute malaria with, 207, 220, 224

Phenazopyridine
influence on sulfonamide effectiveness, 134

Phlebitis
production by cephalopirin and cephalothin, 306

Phosphorylation of aminoglycosides, 206

Plant extracts
antibacterial activity of latex from milkweed, 247

Plasmodium berghei infections
treatment with chloroquine, pyrimethamine, and sulfamethoxydiazine, 392

Plasmodium falciparum
chloroquine-resistant, 662
¹⁴C-amidoquin binding, 545
¹⁴C-chloroquin binding, 545

Plasmodium falciparum malaria
treatment of, 207, 214, 220, 224

Polifungin
biosynthesis of, 162

Poly(*N*-acryloyl-4- and -5-aminosalicylic acids in preparation of insoluble antibiotics, 29)

Polyenes
permeability control in animal cells by, 441

Polyinosinic acid-polycytidyl acid complex
human cell response, 642

Polymyxin
synergism with sulfonamides in L-forms, 523

Polymyxin B
bleomycin potentiation, 580
chromomycin A3 potentiation, 580
5-fluorouracil potentiation, 580

Polynucleotides
toxicity and antiviral activity of, 198

Polyribonosinic-polyribocytidyl acid
compared with Mengo virus RNA, 590
compared with RNA from Mengo virus, 590

Pressurization
effect on penicillin binding, 147

Proteus mirabilis
drug synergism against L-forms of, 523

Pseudomonas aeruginosa
carbenicillin resistance of strains from burns, 279
chromosomal resistance in, 638
R factor R931 mechanisms in, 638
R factors, 625
silver sulfadiazine, 621
susceptibility to actinomycin D, 399

Pseudomonas sepsis in monkeys
effect of carbenicillin and gentamicin against, 274
effect of colistin and carbenicillin against, 118

Pyrimethamine
use in combination with chloroquine and sulfamethoxydiazine, 392

Quinacrine
antiviral activity, 537
interferon-like substance induction, 537

Quinoline methanol
treatment of acute malaria with, 214, 220, 224

R factor
B. bronchiseptica demonstration of, 555
E. coli, 670
interbacterial transfer of, 542

in carbenicillin resistance of *P. aeruginosa*, 279
P. aeruginosa, 625

Trimethoprim treatment of *E. coli*, 670

R factor chloramphenicol acetyltransferases
characterization of, 99

R factor β -lactamases
characterization of, 68

R factor mutants
hypersynthesis of penicillinase by, 315

R factor R931 in *P. aeruginosa*, 638

Radioimmunoassay for gentamicin, 585

Renal function
effect on serum half-life of aminoglycosides, 125
effect on tobramycin dosage, 469

Resistance to 5-fluorocytosine, 649

Resistance to ketomycin
mechanism in *E. coli*, 510

Rhinovirus infections
effect of isoprinosine against, 332

1- β -D-Ribofuranosyl-1,2,4-triazole-3-carboxamide
see Virazole

Ribonucleic acid from Mengo virus
compared with poly I:C, 590

Ribonucleic acid viruses
effect of Virazole on, 235

Rifampin
activity against *B. fragilis*, 152
curing of F episome by, 456
effect on immune response in guinea pigs, 451

Saccharomyces
lomofungin treatment, 716, 723

Saccharomyces cerevisiae
nalidixic acid effect on, 562
thiolutin treatment, 729

Salmonella typhosa
endotoxin synergistic toxicity, 686
endotoxin toxicity, 599

Sch 13706
comparison with other aminoglycosides, 87

Sewage
drug resistance of coliforms in, 175

Silver sulfadiazine
P. aeruginosa, 621

Sisomicin
comparison with gentamicin and tobramycin, 24, 87

Spectinomycin
activity against *Enterobacteriaceae* and *Pseudomonas*, 338
in vitro effect on *N. gonorrhoeae*, 335

Spiramycin
distribution in serum and milk, 607

Sporotrichosis
therapy with 5-fluorocytosine, 95

Staphylococci
mechanism of chloramphenicol resistance, 299

Staphylococcus aureus
cephalosporin B against, 677
drug synergism against L-forms of, 523
effect of elevated pressure on penicillin susceptibility, 147

Staphylococcus epidermidis
effect of hydroxyurea on, 432
plasmid for tetracycline resistance, 568
tetracycline resistance in, 568

Streptococcus pyogenes
effect of elevated pressure on penicillin susceptibility, 147
susceptibility to valinomycin, 63

Streptomyces
exocellular β -lactamases of, 289
killing site of β -lactam antibiotics in, 181

Streptomyces griseolus
production of A9145 by, 49

Streptomyces virceus
production of U-42,126 by, 425

Sulfamethoxydiazine
effect against *P. berghei* infections, 392

Sulphydryl binding compounds
bactericidal action of, 157

Sulfonamides
effect of combination with phenazopyridine, 134
inhibition of dihydropteroate synthetase by, 665
synergism with polymyxin in L-forms, 523

Sulfones
inhibition of dihydropteroate synthetase by, 665

Tenuazonic acid analogues
microbial production of, 308

Tetracycline
activity against *B. fragilis*, 152
distribution in serum and milk, 602
host-defense mechanisms, 711
K. pneumoniae respiration, 645
N. asteroides susceptibility to, 1

Tetracycline resistance
plasmid for in *S. epidermidis*, 568
S. epidermidis plasmid for, 568

Tetracycline-resistant bacteria
minocycline uptake by, 662
tetracycline uptake by, 662

Tetracycline-susceptible bacteria
minocycline uptake by, 662
tetracycline uptake by, 662

Tetracycline uptake, 662

Thiolutin
S. cerevisiae, 729

Tissues
assay of antibiotics in, 143

Tobacco smoke condensate
antiviral activity of, 484

Tobramycin
activity against *Enterobacteriaceae* and *Pseudomonas*, 338
comparison with gentamicin and BB-K8, 532
comparison with sisomicin, 24, 87
pharmacokinetics of, 445, 469
serum half-life in normal and anephric patients, 125
synergism with penicillin, 526

Torulopsis glabra
activity of 5-fluorocytosine against, 9

Transformation
inhibition by distamycin, 384

Trimethoprim
E. coli R factor
R factor curing

Typhoid
ampicillin treatment of chronic carriers, 439

U-42, 126
new antimetabolite antibiotic, 425

Urinary tract infections
amphotericin B control of infections due to *C. albicans*, 474

Urinary tract infections
treatment with amoxicillin, 262

Vaccinia virus
susceptibility to Virazole, 242

Valinomycin
cation reversal of action, 63

Vancomycin
activity against *B. fragilis*, 188

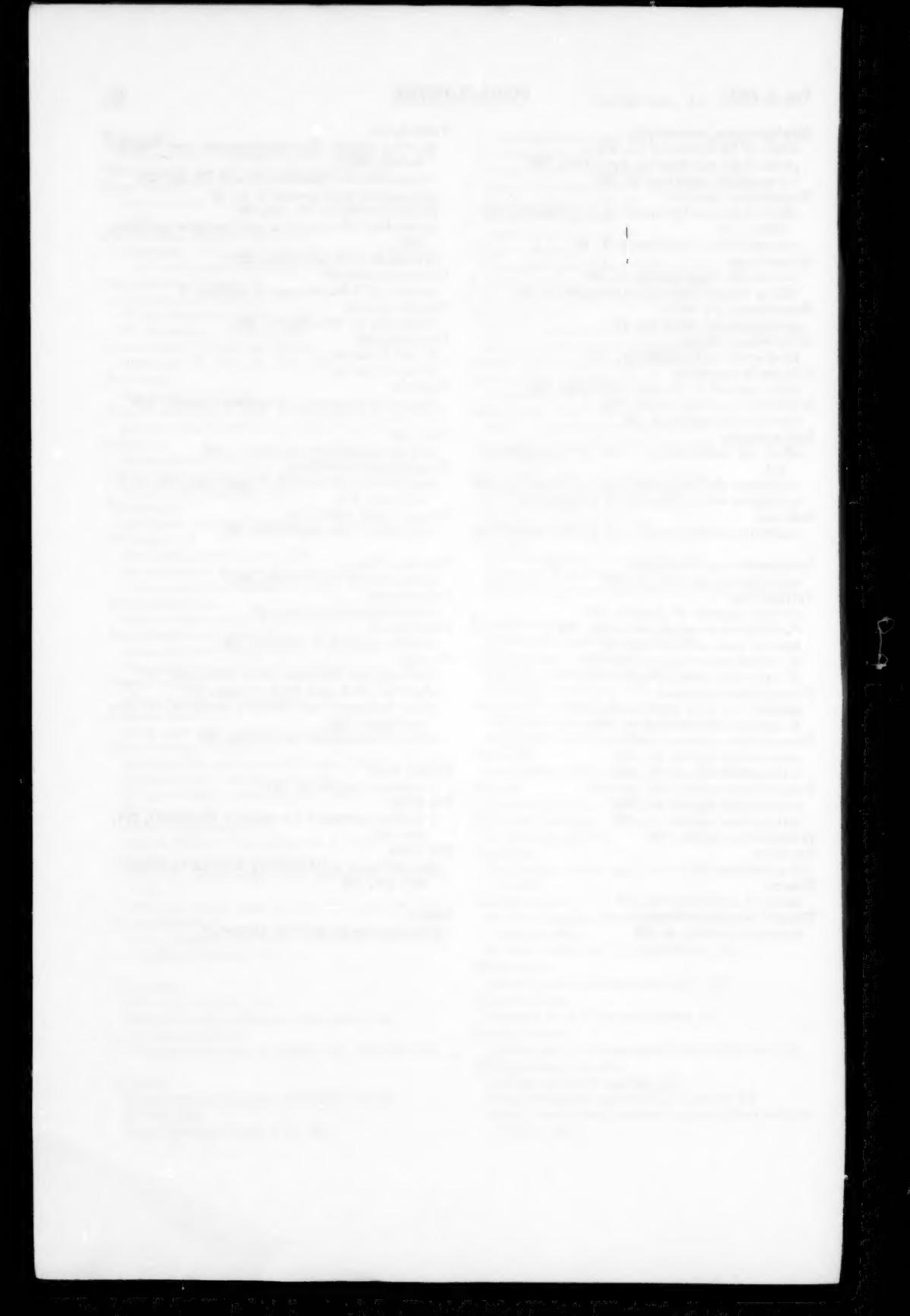
Virazole
effect against influenza virus infections, 517
effect on DNA and RNA viruses, 235
effect on herpes and vaccinia keratitis and encephalitis, 242
failure to stimulate interferon, 534

Walnut bark
fungistatic action of, 436

WR 30090
quinoline methanol for malaria treatment, 214, 220, 224

WR 33063
phenanthrene methanol for malaria treatment, 207, 220, 224

Yeasts
5-fluorocytosine activity against, 9



ANTIMICROBIAL AGENTS AND
CHEMOTHERAPY

VOLUME 3

BALTIMORE, MD. 21202

1973

ANTIMICROBIAL AGENTS AND CHEMOTHERAPY

VOLUME 3

EDITORIAL BOARD

GLADYS L. HOBBY, Editor-in-Chief (1975)

U. S. Veterans Administration and the Infectious Disease Research Institute, East Orange, N.J.

WALTER D. CELMER, Editor (1975)
Pfizer Inc., Groton, Conn.

JOEL G. FLAKS, Editor (1976)
University of Pennsylvania, Philadelphia

EDWARD W. HOOK, Editor (1976)

EDWARD W. KOK, Editor (1918)
University of Virginia, Charlottesville

LEON H. SCHMIDT, Editor (1974)

LEON H. SCHMIDT, Editor (1914)
Southern Research Institute, Birmingham, Ala.

Fred Allison, Jr. (1973)
Theodore Anderson (1973)
Robert Austrian (1974)
John Bennett (1973)
Konrad E. Bloch (1975)
E. Borowski (1973)
D. Buyske (1974)
Bernard E. Cabana (1975)
Yves Chabbert (1974)
Patricia Charache (1974)
Ernest Chick (1973)
Leighton E. Cluff (1974)
Kenneth W. Cochran (1975)
Frank Collins (1973)
John Corcoran (1974)
Julian Davies (1973)
Bernard Davis (1973)
Rober DesPrez (1973)
Liebor Ebringer (1974)
H. L. Ennis (1974)
David S. Feingold (1975)
Maxwell Finland (1973)
Robert J. Fitzgerald (1974)
Anthony J. Glazko (1975)
Harry Goorder (1973)

M. Gorman (1974)
H. Grisebach (1974)
Arthur P. Grossman (1975)
Jack Gwaltney (1974)
Fred Hahn (1973)
William Hewitt (1974)
Richard Hornick (1974)
Milton Huppert (1974)
George Gee Jackson (1974)
Keith Jensen (1974)
E. H. Kass (1973)
Donald Kaye (1973)
Wm. Kirby (1973)
Vernon Knight (1974)
Calvin Kunin (1975)
Mark Lepper (1974)
Robert G. Loudon (1974)
Thomas H. Maren (1974)
Lester Mitscher (1974)
S. Mitsuhashi (1974)
R. B. Morin (1973)
Bernard Moss (1975)
L. Nickell (1974)
T. J. Perun (1974)

Burton M. Pogell (1975)
 K. E. Price (1973)
 C. Reilly (1975)
 R. W. Richards (1974)
 R. W. Ridder (1974)
 Richard Roberts (1973)
 L. Sabath (1973)
 Arthur K. Saz (1973)
 F. C. Scialvino (1973)
 Piero Sensi (1974)
 Robert W. Sidwell (1975)
 David Smith (1974)
 Sigmund S. Socransky (1974)
 Elsie Spaulding (1974)
 Gene Stollerman (1974)
 R. Sutherland (1973)
 Morton N. Swartz (1973)
 Paul E. Thompson (1975)
 Ralph Tompsett (1973)
 John P. Utz (1973)
 D. Vazquez (1974)
 G. H. Wagman (1974)
 B. Weisblum (1973)
 Temple Williams (1973)

ROBERT A. DAY, Managing Editor, 1913 I St., N.W., Washington, D.C. 20006

EX OFFICIO

R. G. E. MURRAY, President (1972-1973) **L. LEON CAMPBELL**, Vice-President (1972-1973)
DONALD E. SHAY, Secretary **T. J. CARSKI**, Treasurer

Antimicrobial Agents and Chemotherapy, a publication of the American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006, is devoted to the dissemination of knowledge relating to all aspects of antimicrobial agents and chemotherapy, including cancer chemotherapy. *Antimicrobial Agents and Chemotherapy* is published monthly, and the twelve numbers are divided into two volumes per year. The subscription price is \$40 (foreign, \$41) per year. Single copies are \$4.00 (foreign, \$4.25). Members of the American Society for Microbiology may receive *Antimicrobial Agents and Chemotherapy* as part of their dues. Correspondence relating to subscriptions, reprints, defective copies, availability of back issues, lost or late proofs, disposition of submitted manuscripts, and general editorial matters should be directed to the ASM Publications Office, 1913 I St.,

N.W., Washington, D.C. 20006 (area 202 833-9416). Correspondence from ASM members relating to membership dues, member subscriptions, changes of address, incorrect journals, etc., should be directed to the Executive Secretary, American Society for Microbiology, 1911 I St., N.W., Washington, D.C. 20006. Published monthly by the ASM at 428 E. Preston St., Baltimore, Md. 21202.

Second class postage paid at Baltimore, Md. 21202, and at additional mailing offices.
Made in the United States of America.
Copyright © 1973, American Society for Microbiology
All Rights Reserved.

Volume 3

Contents for January

Number 1

Susceptibility of <i>Nocardia asteroides</i> to 45 Antimicrobial Agents In Vitro. MICHAEL C. BACH, LEON D. SABATH, AND MAXWELL FINLAND.....	1
In Vitro Activity of 5-Fluorocytosine Against <i>Candida</i> and <i>Torulopsis</i> Species. S. SHADOMY, CAROL B. KIRCHOFF, AND ANA E. INGROFF.....	9
Independent Antibiotic Actions of Hetacillin and Ampicillin Revealed by Fast Methods. S. FAINE AND M. HARPER.....	15
Biliary Excretion of a New Semisynthetic Cephalosporin, Cephacetrile. J. M. BROGARD, P. HAEGELE, M. DORNER, AND J. LAVILLAUREX.....	19
Sisomicin: Evaluation In Vitro and Comparison with Gentamicin and Tobramycin. CHRISTINE C. CROWE AND EUGENE SANDERS.....	24
Poly (<i>N</i> -Acryloyl-4- and -5-Aminosalicylic Acids). II. Antibacterial Properties and Uses for the Preparation of Active, Insoluble Antibiotics. J. F. KENNEDY, J. EPTON, AND G. R. KENNEDY.....	29
Effect of Assay Medium on the Antibacterial Activity of Certain Penicillins and Cephalosporins. T. A. PURSIANO, M. MISIEK, F. LEITNER, AND K. E. PRICE.....	33
Microbiological Properties of a New Cephalosporin, BL-S 339: 7-(Phenylacetimidoyl-aminoacetamido) - 3 - (2 - Methyl - 1,3,4 - Thiadiazol - 5 - Ylthiomethyl)Ceph - 3 - em-4-Carboxylic Acid. M. MISIEK, T. A. PURSIANO, F. LEITNER, AND K. E. PRICE.....	40
A9145, a New Adenine-Containing Antifungal Antibiotic: Fermentation. L. D. BOECK, G. M. CLEM, M. M. WILSON, AND J. E. WESTHEAD.....	49
Dual Effect in the Mechanism of Action of Anti-Influenza Virus Amino Acid Analogues. HARUHISA FUJITA.....	57
Cation Reversal of Inhibition of Growth by Valinomycin in <i>Streptococcus pyogenes</i> and <i>Clostridium sporogenes</i> . DUTTA SESHACHALAM, DAVID H. FRAHM, AND FRANK M. FERRARO.....	63
Characterization of R Factor β -Lactamases by the Acidimetric Method. FRAN A. RUBIN AND DAVID H. SMITH.....	68
Treatment of Herpes Simplex Virus Types 1 and 2 Encephalitis in Mice with 9- β -D-Arabinofuranosyladenine. B. J. SLOAN, F. A. MILLER, AND I. W. MCLEAN, JR.....	74
Renal Handling and Lymph Concentration of Two Cephalosporin Analogues, Cephacetrile and Cephalaridine: an Experimental Study in Dogs. KURT G. NABER AND PAUL O. MADSEN.....	81
In Vitro Bactericidal Effectiveness of Four Aminoglycoside Antibiotics. PHINEAS J. HYAMS, MICHAEL S. SIMBERKOFF, AND JAMES J. RAHAL, JR.....	87
Experimental Therapy of Cladosporiosis and Sporotrichosis with 5-Fluorocytosine. EDWARD R. BLOCK, ANNE E. JENNINGS, AND JOHN E. BENNETT.....	95
Chloramphenicol Acetyltransferases Specified by <i>f</i> -R Factors. T. J. FOSTER AND W. V. SHAW.....	99
Passicol, an Antibacterial and Antifungal Agent Produced by <i>Passiflora</i> Plant Species: Preparation and Physicochemical Characteristics. J. BIRNER AND JOAN M. NICOLLS.....	105
Passicol, an Antibacterial and Antifungal Agent Produced by <i>Passiflora</i> Plant Species: Qualitative and Quantitative Range of Activity. JOAN M. NICOLLS, J. BIRNER, AND P. FORSELL.....	110
Comparison of Colistin-Carbenicillin, Colistin, and Carbenicillin in <i>Pseudomonas</i> Sepsis in Monkeys. SAMUEL SASLAW, HAROLD N. CARLISLE, AND MOHAMMAD MOHEIMANI.....	118
Tobramycin and Gentamicin Concentrations in the Serum of Normal and Anephric Patients. W. R. LOCKWOOD AND JOHN D. BOWER.....	125
Screening of Isoniazid Inactivators. LESLIE EIDUS AND MARY M. HODGKIN.....	130
Phenazopyridine-Sulfonamide Combination Antibacterial Therapy in Mice. C. L. HEIFETZ AND M. W. FISHER.....	134
Resistance of Some Species of <i>Clostridium</i> to Clindamycin. T. D. WILKINS AND TERESA THIEL.....	136

Inhibition of Chlorination in <i>Streptomyces aureofaciens</i> by Nitriles and Related Compounds. JOSEPH J. GOODMAN AND MARY MATRISHIN.....	138
Effect of Hepatic Insufficiency on 5-Fluorocytosine Concentrations in Serum. EDWARD R. BLOCK.....	141

Volume 3 Contents for February Number 2

Influence of Methodology upon Apparent Concentrations of Antibiotics in Tissue. J. MARTIN KAPLAN, GEORGE H. McCACKEN, JR., AND EDWARD SNYDER.....	143
Effect of Elevated Atmospheric Pressure on Penicillin Binding by <i>Staphylococcus aureus</i> and <i>Streptococcus pyogenes</i> . N. A. SCHLAMM AND O. P. DAILY.....	147
Bacteriostatic and Bactericidal Activities of Various Antibiotics Against <i>Bacteroides fragilis</i> . R. J. ZABRANSKY, J. A. JOHNSTON, AND K. J. HAUSER.....	152
Bactericidal Action of Sulfhydryl Binding Compounds. V. TULLI.....	157
Limiting Reactions in Activation of Acyl Units in Biosynthesis of Macrolide Antibiotics. KONSTANCA RACZYNSKA-BOJANOWSKA, ZBIGNIEW RUCZAJ, DANUTA SAWNOR-KORSZYNSKA, AND ANDRZEJ RAFALSKI.....	162
Clinical and In Vitro Evaluation of Cefazolin, a New Cephalosporin Antibiotic. KRISTEN RIES, MATTHEW E. LEVISON, AND DONALD KAYE.....	168
Drug Resistance of Coliform Bacteria in Hospital and City Sewage. W. O. K. GRABOW AND O. W. PROZESKY.....	175
DD-Carboxypeptidase-Transpeptidase and Killing Site of β -Lactam Antibiotics in <i>Streptomyces</i> Strains R39, R61, and K11. JEAN DUSART, ALBERTO MARQUET, JEAN-MARIE GHUYSEN, JEAN-MARIE FRÈRE, RAMON MORENO, MELINA LEYH-BOUILLE, KENNETH JOHNSON, CHANTAL LUCCHI, HAROLD R. PERKINS, AND MANUEL NIETO.....	181
Susceptibility of <i>Bacteroides fragilis</i> to Six Antibiotics Determined by Standardized Antimicrobial Disc Susceptibility Testing. VERA L. SUTTER, YUNG-YUAN KWOK, AND SYDNEY M. FINEGOLD.....	188
Spectrophotometric Method for the Estimation of 6-Aminopenicillanic Acid. KHADIJA SHAIKH, P. G. TALATI, AND D. M. GANG.....	194
Studies on the Toxicity and Antiviral Activity of Various Polynucleotides. D. R. BLACK, F. ECKSTEIN, E. DECLERCQ, AND T. C. MERIGAN.....	198
A Phenanthrene Methanol (WR 33063) for Treatment of Acute Malaria. J. D. ARNOLD, D. C. MARTIN, P. E. CARSON, K. H. RIECKMANN, D. WILLERSON, JR., D. F. CLYDE, AND R. M. MILLER.....	207
A Quinoline Methanol (WR 30090) for Treatment of Acute Malaria. D. C. MARTIN, J. D. ARNOLD, D. F. CLYDE, M. AL IBRAHIM, P. E. CARSON, K. H. RIECKMANN, AND D. WILLERSON, JR.....	214
Prophylactic Activity of a Phenanthrene Methanol (WR 33063) and a Quinoline Methanol (WR 30090) in Human Malaria. DAVID F. CLYDE, VINCENT C. McCARTHY, CLETUS C. REBERT, AND ROGER M. MILLER.....	220
Treatment of Falciparum Malaria from Vietnam with a Phenanthrene Methanol (WR 33063) and a Quinoline Methanol (WR 30090). CRAIG J. CANFIELD, ANTHONY P. HALL, BRUCE S. MACDONALD, DAVID A. NEUMAN, AND JAMES A. SHAW.....	224
Cephacetrile: Clinical Evaluation in 27 Patients. GLENN R. HODGES, JOSEPH F. SCHOLAND, AND ROBERT L. PERKINS.....	228
In Vitro Effect of 1- β -D-Ribofuranosyl-1,2,4,-Triazole-3-Carboxamide (Virazole, ICN 1229) on Deoxyribonucleic Acid and Ribonucleic Acid Viruses. JOHN H. HUFFMAN, ROBERT W. SIDWELL, GYANESHWAR P. KHARE, JOSEPH T. WITKOWSKI, LOIS B. ALLEN, AND ROLAND K. ROBINS.....	235
Effect of 1- β -D-Ribofuranosyl-1,2,4-Triazole-3-Carboxamide (Virazole, ICN 1229) on Herpes and Vaccinia Keratitis and Encephalitis in Laboratory Animals. ROBERT W. SIDWELL, LOIS B. ALLEN, G. P. KHARE, JOHN H. HUFFMAN, J. T. WITKOWSKI, LIONEL N. SIMON, AND ROLAND K. ROBINS.....	242
Study of Antibacterial Activity and Bacteriology of Latex from <i>Asclepias syriaca</i> L. STEVEN McCAY AND PAUL MAHLBERG.....	247

Cephamycins, a New Family of β -Lactam Antibiotics: Antibacterial Activity and Resistance to β -Lactamase Degradation. DONALD R. DAOUST, H. RUSSELL ONISHI, HYMAN WALICK, DAVID HENDLIN, AND EDWARD O. STAPLEY.....	254
Amoxicillin, a New Penicillin Antibiotic. H. HUNTER HANDSFIELD, HUGH CLARK, JAMES F. WALLACE, KING K. HOLMES, AND MARVIN TURCK.....	262
Two Enzymes Which Phosphorylate Neomycin and Kanamycin in <i>Escherichia coli</i> Strains Carrying R Factors. M. BRZEZINSKA AND J. DAVIES.....	266
Comparison of the Chemotherapeutic and Pharmacodynamic Activities of Cephadrine, Cephalothin, and Cephaloridine in Mice. GENNARO J. MIRAGLIA, KATHLEEN J. RENZ, AND HANS H. GADEBUSCH.....	270
Comparison of Gentamicin, Carbenicillin and Gentamicin, and Carbenicillin in <i>Pseudomonas</i> Sepsis in Monkeys. SAMUEL SASLAW, HAROLD N. CARLISLE, AND MOHAMMAD MOHEIMANI.....	274
Molecular Characterization of the R Factors Implicated in the Carbenicillin Resistance of a Sequence of <i>Pseudomonas aeruginosa</i> Strains Isolated from Burns. LEWIS C. INGRAM, M. H. RICHMOND, AND R. B. SYKES.....	279
Exocellular β -Lactamases of <i>Streptomyces albus</i> G and Strains R39 and K11. KENNETH JOHNSON, JEAN DUSART, JAMES N. CAMPBELL, AND JEAN-MARIE GHUYSEN.....	289
Mechanism of Chloramphenicol Resistance in Staphylococci: Characterization and Hybridization of Variants of Chloramphenicol Acetyltransferase. L. C. SANDS AND W. V. SHAW.....	299
Double-Blind Controlled Comparison of Phlebitis Produced by Cephapirin and Cephalothin. JAIME CARRIZOSA, MATTHEW E. LEVISON, AND DONALD KAYE.....	306
Microbial Production of Tenuazonic Acid Analogues. STEN GATENBECK AND JULIAN SIERANKIEWICZ.....	308
Growth of <i>Dictyostelium discoideum</i> in the Presence of Antibiotics. LESLIE L. LOVE, BRUCE M. CHASSY, AND MICAH L. KRICEVSKY.....	310

Volume 3

Contents for March

Number 3

Mutation of R Factors Capable of Specifying Hypersynthesis of Penicillinase. YOSHIHIRO ODAKURA, TOKUMITSU TANAKA, HAJIME HASHIMOTO, AND SUSUMU MITSUHASHI.....	315
Reversible Inhibition of Herpes Simplex Virus Replication by Hydroxyurea. HERBERT S. ROSENKRANZ AND YECHIEL BECKER.....	325
Trial of the Antiviral Action of Isoprinosine Against Rhinovirus Infection of Volunteers. A. J. SOTO, T. S. HALL, AND SYLVIA E. REED.....	332
In Vitro Susceptibility of <i>Neisseria gonorrhoeae</i> to Spectinomycin Examined by a Broth Dilution Method. J. LEVY, K. WICHER, AND N. R. ROSE.....	335
Comparison of Five Aminocyclitol Antibiotics In Vitro Against <i>Enterobacteriaceae</i> and <i>Pseudomonas</i> . WALTER KARNEY, KING K. HOLMES, AND MARVIN TURCK.....	338
Discrepancy Between Carbenicillin and Ampicillin Activities Against Enterococci and <i>Listeria</i> . GEORGE H. McCACKEN, JR., JOHN D. NELSON, AND MARION L. THOMAS.....	343
Modified Broth-Disk Method for Testing the Antibiotic Susceptibility of Anaerobic Bacteria. TRACY D. WILKINS AND TERESA THIEL.....	350
Mode of Action of Illudin S. J. WALSER AND P. F. HEINSTEIN.....	357
Turbidimetric Bioassay for Carbenicillin. JOSEPH P. STANEKIEWICH AND RONALD P. UPTON.....	364
Cephalosporinase Activity in <i>Bacteroides fragilis</i> . VICTOR E. DEL BENE AND W. EDMUND FARRAR, JR.....	369
Mechanism by Which Hydnocarpic Acid Inhibits Mycobacterial Multiplication. PETER L. JACOBSEN AND LOUIS LEVY.....	373
Bromomonamycins, Unnatural Analogues of the Monamycin Cyclodepsipeptide Antibiotics: Production, Isolation, and Biological Activity. M. J. HALL, B. O. HANDFORD, C. H. HASSALL, D. A. S. PHILLIPS, AND A. V. REES.....	380

Interaction Between Deoxyribonucleic Acid and Distamycin A Studied by Transformation in <i>Bacillus subtilis</i> . G. MAZZA, A. GALIZZI, A. MINGHETTI, AND A. SICARDI.....	384
Chemotherapeutic Activity of Combination Doses of Chloroquine, Pyrimethamine, and Sulfamethoxydiazine, a Long-Acting Sulfanilamide, Against <i>Plasmodium berghei</i> Infections in Mice. DICRAN A. BERBERIAN AND RALPH G. SLIGHTER, JR.	392
Susceptibility of Whole Cells and Spheroplasts of <i>Pseudomonas aeruginosa</i> to Actinomycin D. K.-J. CHENG, J. W. COSTERTON, A. P. SINGH, AND J. M. INGRAM.....	399
In Vitro Microassay for Biological Activity of Cyclophosphamide Metabolites. DAVID LAUX AND ROBERT N. LAUSCH.....	407
Cytosine Arabinoside Therapy for Herpes Simplex Encephalitis—Clinical Experience with Six Patients. ANTHONY W. CHOW, ALLAN RONALD, MILAN FIALA, WILLIAM HRYNIUK, MARVIN L. WEIL, JOSEPH St. GEME, JR., AND LUCIEN B. GUZE.....	412
Rapid, Modified Kirby-Bauer Susceptibility Test with Single, High-Concentration Antimicrobial Disks. V. JAMES BOYLE, MARILYN E. FANCHER, AND RICHARD W. ROSS, JR.	418
U-42,126, a New Antimetabolite Antibiotic: Production, Biological Activity, and Taxonomy of the Producing Microorganism. L. H. HANKA AND A. DIETZ.....	425
Effect of Hydroxyurea on <i>Staphylococcus epidermidis</i> and <i>Micrococcus lysodeikticus</i> : Thickening of the Cell Wall. ROSE R. FEINER, JOE E. COWARD, AND HERBERT S. ROSENKRANZ.....	432
Fungistatic Action of Juglans. SHAHNNAZ AHMAD, MUKHTAR A. WAHID, AND A. Q. S. BUKHARI.....	436
Treatment of Chronic Typhoid Carriers with Ampicillin. WARREN D. JOHNSON, JR., EDWARD W. HOOK, EDNA LINDSEY, AND DONALD KAYE.....	439
Permeability Control in Animal Cells by Polyenes: a Possibility. GERALD MEDOFF, C. N. KWAN, D. SCHLESSINGER, AND G. S. KOBAYASHI.....	441

Volume 3

Contents for April

Number 4

Pharmacokinetic Studies of Tobramycin and Gentamicin. V. K. SIMON, E. U. MÖSINGER, AND V. MALERCZY.....	445
Effect of Rifampin on the Immune Response in Guinea Pigs. BASEM M. DAJANI, JOHN E. KASIK, AND JOHN S. THOMPSON.....	451
Relationships Between Curing of the F Episome by Rifampin and by Acridine Orange in <i>Escherichia coli</i> . S. RIVA, A. FIETTA, M. BERTI, L. G. SILVESTRI, AND E. ROMERO.....	456
Metabolism of Penicillins to Penicilloic Acids and 6-Aminopenicillanic Acid in Man and Its Significance in Assessing Penicillin Absorption. M. COLE, M. D. KENIG, AND VALERIE A. HEWITT.....	463
Pharmacokinetics of the Aminoglycoside Antibiotic Tobramycin in Humans. KURT G. NABER, SILVIA R. WESTENFELDER, AND PAUL O. MADSEN.....	469
Experimental Urinary Tract Infection in Rats Caused by <i>Candida albicans</i> . GENNARO J. MIRAGLIA AND KATHLEEN J. RENZ.....	474
Comparative Pharmacokinetics of BB-K8 and Kanamycin in Dogs and Humans. BERNARD E. CABANA AND JAMES G. TAGGART.....	478
Antiviral Activity of Tobacco Smoke Condensate on Encephalomyocarditis Infection in Mice. E. FURUSAWA, S. RAMANATHAN, N. SUZUKI, S. TANI, AND S. FURUSAWA.....	484
Evaluation of Cefazolin, a New Cephalosporin Antibiotic. L. BARTH RELLER, WALTER W. KARNEY, HARRY N. BEATY, KING K. HOLMES, AND MARVIN TURCK.....	488
<i>N,N</i> -Diocadecyl- <i>N',N'</i> -Bis(2-Hydroxyethyl)Propanediamine: Antiviral Activity and Interferon Stimulation in Mice. W. W. HOFFMAN, J. J. KORST, J. F. NIBLACK, AND T. H. CRONIN.....	498
Increased Susceptibility of <i>Neisseria gonorrhoea</i> from a Rural Area. DIETER W. GUMP AND PAUL T. BERRY.....	503

Effect of Isoprinosine Against Challenge with A(H ₂ N ₂)/Hong Kong Influenza Virus in Volunteers. SELDEN LONGLEY, R. LYNN DUNNING, AND ROBERT H. WALDMAN	506
Defective Transamination, a Mechanism for Resistance to Ketomycin in <i>Escherichia coli</i> . JULIUS H. JACKSON AND H. E. UMBARGER	510
Suppression by 1-β-D-Ribofuranosyl-1,2,4-Triazole-3-Carboxamide (Virazole, ICN 1229) of Influenza Virus-Induced Infections in Mice. GYANESHWAR P. KHARE, ROBERT W. SIDWELL, J. T. WITKOWSKI, LIONEL N. SIMON, AND ROLAND K. ROBINS	517
Synergism of Polymyxin and Sulfonamides in L-Forms of <i>Staphylococcus aureus</i> and <i>Proteus mirabilis</i> . J. Z. MONTGOMERIE, G. M. KALMANSON, AND L. B. GUZE	523
Penicillin-Tobramycin Synergism Against Enterococci: a Comparison with Penicillin and Gentamicin. ROBERT C. MOELLERING, JR., CHRISTINE WENNERSTEN, AND ALLEN J. WEINSTEIN	526
Miracil D: Inhibition of Deoxyribonucleic Acid Polymerase-Deficient <i>Escherichia coli</i> . HERBERT S. ROSENKRANZ	530
In Vitro Evaluation of a New Aminoglycoside Derivative of Kanamycin, a Comparison with Tobramycin and Gentamicin. KRISTEN RIES, MATTHEW E. LEVINSON, AND DONALD KAYE	532
Failure of 1-β-D-Ribofuranosyl-1,2,4-Triazole-3-Carboxamide (Virazole, ICN 1229) to Stimulate Interferon. LOIS B. ALLEN, JOHN H. HUFFMAN, AND ROBERT W. SIDWELL	534

Volume 3

Contents for May

Number 5

Antiviral Activity and Induction of Interferon-Like Substance by Quinacrine and Acranil. E. T. GLÁZ, ERIKA SZOLGAY, IVANA STÓGER, AND MARGARITA TÁLAS	537
Interbacterial Transfer of R Factor in Humans. HAROLD C. NEU, PHILIP J. HUBER, AND ELAINE B. WINSELL	542
Chloroquine-Resistant <i>Plasmodium falciparum</i> : Difference in the Handling of ¹⁴ C-Amodiaquin and ¹⁴ C-Chloroquine. COY D. FITCH	545
Inhibition of Lipid Synthesis in <i>Escherichia coli</i> Cells by the Antibiotic Cerulenin. ISRAEL GOLDBERG, JAMES R. WALKER, AND KONRAD BLOCH	549
Demonstration of R Factors in <i>Bordetella bronchiseptica</i> Isolated from Pigs. NOBUYUKI TERAKADO, HAYAMI AZECHI, KIYOJI NINOMIYA, AND TAKESHI SHIMIZU	555
Simplified Assay for Gentamicin in the Presence of Other Antibiotics. DAVID V. ALCID AND STEPHEN J. SELIGMAN	559
Studies on the Action of Nalidixic Acid in the Yeast <i>Saccharomyces cerevisiae</i> . C. A. MICHELS, J. BLAMIRE, B. GOLDFINGER, AND J. MARMUR	562
Plasmid for Tetracycline Resistance in <i>Staphylococcus epidermidis</i> . BARBARA H. MINSHEW AND E. D. ROSENBLUM	568
Active Insolubilized Antibiotics Based on Cellulose and Cellulose Carbonate. J. F. KENNEDY AND H. CHO TUN	575
Potentiation of 5-Fluorouracil, Chromomycin A3, and Bleomycin by Amphotericin B or Polymyxin B in Transformed Fibroblastic Cells. MICHIIKO KUWANO, TOMOYA KAMIYA, HIDEYA ENDO, AND SOTARO KOMIYAMA	580
Radioimmunoassay for Measurement of Gentamicin in Blood. W. A. MAHON, J. EZER, AND T. W. WILSON	585
Double-Stranded Ribonucleic Acid from Mengo Virus: Production, Characterization, and Interferon-Inducing and Antiviral Activities in Comparison with Polyriboinosinic-Polyribocytidyllic Acid. E. FALCOFF, R. FALCOFF, J. CHERBY, J. FLORENT, J. LUNEL, L. NINET, Y. DE RATULD, R. TISSIER, B. VUILLEMIN, AND G. H. WERNER	590
Enhanced Toxicity for Mice of Combinations of Bacterial Endotoxin with Antitumor Drugs. NELDA M. MARECKI AND S. G. BRADLEY	599
Distribution and Blood-to-Milk Transfer of Labeled Antibiotics. GIDEON ZIV, EITAN BOGIN, JASHOVAM SHANI (MISHKINSKY), AND FELIX GAD SULMAN	607

Sex Pili Mutants Isolated by Macarbomycin Treatment. S. IYobe, S. MITSUHASHI, AND T. SAITO.....	614
Silver Sulfadiazine: Effect on the Ultrastructure of <i>Pseudomonas aeruginosa</i> . JOE E. COWARD, HOWARD S. CARR, AND HERBERT S. ROSENKRANZ.....	621
Characteristics of R931 and Other <i>Pseudomonas aeruginosa</i> R Factors. L. E. BRYAN, SHIRLEY SEMAKA, H. M. VAN DEN ELZEN, J. E. KINNEAR, AND R. L. S. WHITE- HOUSE.....	625
Mechanisms of R Factor R931 and Chromosomal Tetracycline Resistance in <i>Pseu- domonas aeruginosa</i> . J. T. TSENG AND L. E. BRYAN.....	638
Variable Response of Human Cells to Polyinosinic-Polycytidylic Acid. T. SREEVALSAN.....	642
Divalent Cation Reversal of Tetracycline-Inhibited Respiration of <i>Klebsiella pneu- moniae</i> . WALLACH H. ANDREWS AND LYMAN A. MAGEE.....	645

AUTHOR INDEX

VOLUME 4

Albertson, John N., 376
Almendinger, R., 167
Andrews, Fred A., 115

Baker, Carolyn N., 263
Bakie, Cheryl, 120
Baricko, Janice M., 435
Barry, Arthur L., 354
Barza, Michael, 337, 396
Basak, Ketaki, 6
Baum, Gerald L., 85
Bear, A. S., 421
Beggs, William H., 115
Bennett, John E., 392, 648
Benveniste, R., 402
Berger, Carole L., 388
Bergeron, Michel G., 337, 396
Birmingham, Margaret A. C., 378
Bishop, Elizabeth A., 378
Blazevic, Donna J., 569
Bienden, Donald C., 69
Block, Edward R., 392, 648
Bodey, Gerald P., 31, 186, 427
Bourguignon, Gerard J., 479
Brewer, David, 551
Brown, W. J., 532
Brusch, John L., 337, 396
Bucknall, R. A., 294
Burch, Keith, 525
Burch, Warner, 551
Burton, Glenna C., 69
Butterfield, A. G., 11

Calia, Frank M., 270
Carr, Howard S., 585
Caruthers, J. Q., 263
Chamberlin, J. W., 410
Chang, Chuan-Yi, 66
Chatterjee, Anadi N., 346
Chen, S., 410
Claes, Paul J., 560
Clarke, John T., 564
Cobbs, C. Glenn, 593
Cole, B. Theodore, 495
Cole, Michael A., 248
Coleman, V. R., 259
Coles, N. W., 178
Compernolle, Frans, 560
Conley, Anthony J., 501
Cox, Frank, 525

Daluge, Susan, 37
Davies, J., 402
Davies, Julian, 497
Day, L. E., 410
Desmyter, J., 521

Doolin, L. E., 542
Duma, Richard J., 25

Eda, Junji, 1, 380
Elkan, Gerald H., 248
Engel, Robert, 467

Facklam, Richard R., 514
Farrar, W. Edmund, Jr., 109
Farrell, Larry, 320
Feingold, David S., 309, 316
Feldman, Harvey A., 302
Fisher, Evelyn J., 525
Fletcher, Ronald D., 376
Freimer, Earl, 525
Frost, Richard, 551
Fugono, Takeshi, 140
Fulkerson, Conrad, 551

Galindo, Emma, 597
Gardner, William G., 196
Garrett, Edward R., 574, 626
Gershon, Herman, 435
Gillenwater, Jay Y., 593
Godfrey, Otis W., 73, 542
Godfrey, Patricia K., 435
Goldblum, Natan, 44
Gopinathan, K. P., 205, 643
Gordee, E. Z., 410
Gordee, R. S., 343, 415
Gorman, M., 410
Goto, Sachiko, 149, 156
Gravelle, M. Joan, 332
Griffith, Lewis J., 646
Grimmett, Garfield, 551
Gross, R., 178
Grunberg, E., 306
Gutman, Robert A., 302
Guze, Lucien B., 383

Haas, Michael J., 497
Hager, L. P. 167
Hale, E. M., 634
Hall, Wendell H., 193
Hamill, R. L., 410
Hamilton, John D., 302, 551
Harada, Setsuo, 140
Harris, Raymond, 37
Harwick, Herbert J., 383
Hata, T., 222, 226
Hayes, A. Wallace, 80
Hebeler, Bruce H., 346
Heman-Ackah, Samuel M., 574
Hertz, C. G., 361
Hesp, B., 294
Hewitt, William L., 617
Hill, Donald L., 125

Hinsdill, R. D., 487, 634
Hirsh, Dwight C., 69
Hobby, Gladys L., 94
Hoener, Betty-Ann, 455
Hoeprich, Paul D., 354
Holman, Audrey P., 94
Horikoshi, Noboru, 427
Hornick, Richard B., 270, 612
Hughes, D. W., 11
HsuChen, Chuen-Chin, 309, 316
Hunter, Pamela A., 285
Hyder, Sylvia Lubna, 327

Inagaki, Jiro, 31, 427
Iseman, Michael D., 94
Isenberg, Henry D., 514
Ishifuji, Kiyoshi, 156
Iwai, Y., 222, 226

Jawetz, E., 259
Jayavasu, Chinrudee, 376
Jennings, Anne E., 392
Jetten, A. M., 49
Jollick, J. D., 532
Jones, Julia M., 94

Kabara, Jon J., 501
Kalmanson, George M., 383
Karchmer, Adolf W., 432
Kasik, J. E., 607
Katz, Ehud, 44
Kaye, Donald, 593
Kazemi, M., 555
Kirby, William M. M., 564, 589
Kirkpatrick, J. R., 542
Kishi, Toyokazu, 140
Kluge, Ronica M., 270
Kobayashi, Fujio, 1, 380
Kondo, Masahiro, 140, 149, 156
Koonkhamlert, Chawewan, 198
Koshi, Tomojuki, 1
Krausz, Judith, 237
Kucera, Louis S., 372
Kushner, Donn J., 332
Kuwahara, Shogo, 149, 156

Lawson, Lucy A., 281
Lerner, Phillip I., 85
Levinson, W. E., 259
Levison, Matthew E., 593
Levitt, Martin, 479
Libke, Robert D., 564
Linnett, Paul E., 231
Linquist, Jeanne A., 58
Lockwood, W. R., 281

AUTHOR INDEX

Luboshitzky, R., 201
 Lund, Marlys E., 569

McCredie, Kenneth B., 427
 McGiven, A. R., 214
 MacKay, Elaine, 555
 McLaughlin, Joseph S., 270
 McNeil, Maynard W., 435
 McNeill, T. A., 105
 Madhavan, T., 525
 Majeski, James A., 495
 Majumdar, S. K., 6
 Mallette, M. F., 160
 Mandell, Gerald L., 593
 Manion, Robert E., 193
 Margalith, Eva, 44
 Marks, Melvin I., 555
 Mathur, Asha, 421
 Matsen, John M., 569
 Matsumae, A., 226
 Matsuzawa, Tai, 140
 Mehta, Bipin M., 332
 Mendelson, J., 538
 Merkal, Richard S., 62
 Merz, W. G., 388
 Michel, J., 201
 Middleton, Francis G., 25
 Miller, Marcia A., 66
 Mitscher, Lester A., 455
 Mitsuhashi, Susumu, 1, 380
 Moellerling, Robert C., Jr., 432
 Moores, H., 294
 Mukerjee, P., 607
 Muroi, Masayuki, 140
 Muyembe, T., 521

Nakae, M., 226
 Nash, C. H., III, 474
 Ness, T., 410
 Newsome, Jane K., 109
 Niss, H. F., 474
 Nunn, William D., 467

Ohno, H., 222, 226
 Oishi, Tokiko, 149
 Olarte, Jorge, 597
 Omura, S., 222, 226
 Orme, Kirby, 551

Parmegiani, Raulo, 435
 Pennington, James E., 299
 Perkins, Robert L., 196
 Pestka, Sidney, 37
 Pittillo, Robert F., 125

Plate, C. A., 16
 Pocurull, Dorothy W., 277
 Pohlod, Donald, 525
 Poretz, Donald M., 25
 Portnoy, J., 538
 Pound, N. J., 11
 Preston, D. A., 343, 415
 Prior, Richard B., 196

Quinn, Edward L., 525
 Rabinovich, Sergio, 58
 Ramakrishnan, T., 205
 Read, R. S. D., 214
 Reddy, M. S., 254
 Reed, Sylvia E., 421
 Regamey, Claude, 564, 589
 Reiblein, W. J., 602
 Rein, Michael F., 366
 Reinbold, G. W., 254
 Reiter, Harvard, 320
 Renis, Harold E., 439
 Reynolds, Herbert Y., 299
 Reynolds, Steven, 277
 Ries, Kristen, M., 593
 Rodriguez, Vitorio, 31, 427
 Rolinson, G. N., 285
 Rollins, Larry D., 277
 Rosenberg, E., 507
 Rosenkranz, Herbert S., 585

Sacks, T., 201
 Sande, Merle A., 366, 593
 Saroja, D., 643
 Sawyer, William D., 198
 Schervish-Swierkosz, Ella M., 532

Schroeder, H. R., 160
 Schuldt, S., 607
 Schwartz, Andrew R., 612
 Shaila, M. S., 205
 Shopsis, Charles S., 467
 Sigman, H., 538
 Silva-Hutner, Margarita, 388
 Simms, R., 294
 Slocombe, B., 459
 Smith, Ian M., 58
 Sokoloski, Theodore, D., 455
 Sompolinsky, David, 237
 Sternglanz, Rolf, 479
 Stevens, T., 259
 Stewart, Dorothy, 186
 Stillerman, Maxwell, 514
 Streitfeld, Murray M., 327
 Strominger, Jack L., 231

Stroshane, R., 410
 Sutherland, R., 459

Tagg, J. R., 214
 Takeshima, H., 222
 Takayama, Kuni, 62
 Terando, N. H., 343
 Thornsberry, Clyde, 263
 Titsworth, E., 306
 Togo, Yasushi, 612, 641
 Tropp, Burton E., 467
 Tsang, Joseph C., 66
 Tsuchiya, Kanji, 140, 149, 156

Ueyanagi, Jisaburo, 140
 Upreti, G. C., 487

Vaks, B., 507
 Vandepitte, J., 521
 Vanderhaeghe, Hubert, 560
 Vince, Robert, 37
 Vogels, G. D., 49

Wagman, G. H., 602
 Waitz, J. Allan, 445
 Wang, Lynn, 62
 Washington, John A., II, 133
 Watanakunakorn, Chatrehai, 120
 Watkins, P. D., 602
 Weeks, R. E., 410
 Weinstein, Allan J., 432
 Weinstein, Louis, 337, 396
 Welles, J. S., 343
 Westervelt, Frederic B., 366
 White, W. A., 415
 Wick, W. E., 343, 415
 Wilkie, J., 259
 Williams, F. D., 254
 Wilson, W. L., 11
 Winer, Bela, 44
 Witting, Doreen A., 285
 Wlodkowski, Theodore J., 585
 Won, Chong Min, 626

Yamaguchi, Masahito, 380
 Yamaguchi, N., 222
 Yoo, Sungwhaoh, 376
 Yoshimura, Yoko, 1
 Young, Frank E., 346
 Young, Lowell S., 617
 Yu, Pauline K. W., 133

Zuckerberg, A., 507

ANTIMICROB. AG. CHEMOTHER.

SUBJECT INDEX

VOLUME 4

Acridine orange
effect on circular dichroism trough of RNA, 455

Actinomycetes mycelia
gentamicin binding to, 602

Actinomycin D
inhibition of *M. pneumoniae*, 376

2-Alkenoic acids
antifungal properties, 435

Aminoglycoside antibiotics
activity against gram-negative bacilli, 617
activity against *S. aureus*, 617
assay to determine blood serum levels, 497
disk dilution sensitivity test, 445
in vitro activity of, 133
structure-activity relationships, 402
tube dilution sensitivity test, 445

Amoxicillin
compared with ampicillin, 285
treatment of urinary tract infections, 25

Amphotericin B
chemotherapeutic activity against *C. albicans*, 306
stability in infusion bottles, 648
use in renal disease 302

Ampicillin
activity against *E. coli*, 354
activity against *Proteus*, 354
compared with amoxicillin, 285
compared with carbenicillin indanyl sodium, 593
compared with cephallexin, 593
synergism with gentamicin or streptomycin, 383
treatment in urinary tract infection, 593

Antibiotic inhibitors of protein biosynthesis, 574

Aphidicolin
antiviral effects of, 294

Aspartic and pyruvic acid families
effect on antibiotic production in *S. lipmanii*, 73
isolation of their regulatory mutants, 73

Aspergillus fumigatus
growth on cycloheximide, 388

Bacterial cell wall
regulation of, 346

Bacteriocin
from *L. helveticus*, 487
from *S. aureus* strain 462, 634
production in *S. aureus*, 49

BB-K8
in vitro activity of, 133
in vitro studies of, 186

Benzyl penicillin
activity against *E. coli*, 354
activity against *Proteus*, 354

Beta-lactam antibiotics
mechanism of synergism on gram-negative bacilli, 109

2-Bromo alkanoic acids
antifungal properties of, 435

Candida albicans
amphotericin B chemotherapeutic activity against, 306
5-fluorocytosine chemotherapeutic activity against, 306

Candidiasis
5-fluorocytosine in the treatment of, 58

Carbenicillin
P. aeruginosa susceptibility to, 281
synergism with gentamicin against enterococci, 564

Carbenicillin indanyl sodium
compared with ampicillin, 593
compared with cephalaxin, 593
treatment in urinary tract infection, 593

Cefazolin
bactericidal activity of, 396
clinical studies of, 525
comparison with other cephalosporins, 525
pharmacodynamics of, 366
pharmacology of, 396

Cephalaxin
compared with ampicillin, 593
compared with carbenicillin indanyl sodium, 593
treatment in urinary tract infection, 593

Cephalosporin C
synthesis of from sulfate by *C. acremonium* mutants, 474

Cephalosporium acremonium
synthesis of cephalosporin C from sulfate, 474

Cephalothin
activity against *E. coli*, 354
activity against *Proteus*, 354

Cephanone
pharmacokinetics of, 589

Chloramphenicol
plus novobiocin effect on *E. coli* microbial generation, 626
transmissible resistance to in *R. japonicum*, 248

Circular dichroism trough of RNA
effect of acridine orange on, 455
for study of helix winding, 455

Clindamycin palmitate
compared with potassium phenoxymethyl penicillin, 514
use in streptococcal pharyngitis therapy, 514

Colicin
natural resistance in *E. tarda*, 521

Colicin E₄-induced DNA degradation
reconstitution of in spheroplast preparations, 167

Colicin K
effect of fatty acid substitutions, 16

effect of temperature, 16
Colistin
P. aeruginosa susceptibility, 281
Collodion membranes
 antibiotic filtration through, 337
Compound 64716, 415
Cryptococcus neoformans
 Susceptibility testing to 5-fluorocytosine, 392
Cyclacillin
 serum concentrations in humans, 361
 urine concentrations in humans, 361
Cycloheximide
 growth of *A. fumigatus* on, 388
Cytarabine
 antiviral activity in herpesvirus infection, 439
3,4-Dihydro-1-isoquinolineacetamide hydrochloride
 antiviral effect in rhinovirus infection, 612
Disk dilution sensitivity test
 for aminoglycoside antibiotics, 445
 interrelationship with tube dilution test, 445
Edwardsiella tarda
 colistin resistance in, 521
Energy metabolism
 in *E. coli*, 332
Enterobacteriaceae
 bactericidal effect of nalidixic acid, 201
Enterococci
 synergism of vancomycin combinations against, 120
Enzymatic acetylation
 to determine serum aminoglycoside levels, 497
Erythromycin
 plus novobiocin effect on *E. coli* microbion generation, 626
Escherichia coli
 ampicillin activity against, 354
 benzyl penicillin activity against, 354
 cephalothin activity against, 354
 drug-resistant strains of, 198
 effect of antibiotics on, 198
 effect of glycerol-3-phosphate analogues on growth, 467
 energy metabolism in, 332
 inhibition of growth by purines, nucleosides, and analogues, 125
 lividomycin activity on protein synthesis in, 380
 microbion generation, 626
 phleomycin effect on DNA, 320
 phenoxymethyl penicillin activity against, 354
 proflavine release, 332
 R-factor transfer in, 459
 tetracycline resistant strains of, 69
Ethambutol binding
M. smegmatis inhibition of, 115
5-Fluorocytosine
 chemotherapeutic activity against *C. albicans*, 306
 susceptibility testing of *C. neoformans* to, 392
 treatment of candidiasis, 58
Frog virus multiplication
 failure of rifampin to inhibit, 372
Gentamicin
 binding to actinomycetes mycelia, 602
 in vitro activity, 133
 pharmacology in the human biliary tract, 538
P. aeruginosa susceptibility, 281
 rapid bioassay for serum levels, 569
 synergism with ampicillin or streptomycin, 383
 synergism with carbenicillin against enterococci, 564
Gentamicin-vancomycin
 synergism against enterococci, 120
Glycerol-3-phosphate analogues
 effect on *E. coli* growth, 467
Gram-negative bacilli
 activity of aminoglycoside antibiotics against, 617
 β -lactam antibiotics synergism, 109
Gram-negative bacteria
 fatty acid composition, 378
 lipid composition, 378
Granulocyte-macrophage colony formation
 inhibition of by substituted isatin thiosemicarbazones, 105
Group A streptococcus bacteriocin
 partial purification, 214
 properties, 214
Helix winding
 study of with circular dichroism trough of RNA, 455
Herpesvirus hominus
 inactivation by silver nitrate, 259
Herpesvirus infection
 cytarabine antiviral activity, 439
High-speed liquid chromatography
 for detection of tetracyclines, 11
 for separation of tetracyclines, 11
Implanted chambers
 fluid dynamics, 196
 pharmacological dynamics, 196
Influenza virus
 effect of virazole against, 641
Isatin-beta-thiosemicarbazone
 synthesis of vaccinia virus polypeptides, 44
Isatin thiosemicarbazones
 inhibition of granulocyte-macrophage colony formation, 105
Isoniazid
M. tuberculosis exposure, 62
 transduction of susceptibility-resistance in mycobacteria, 643
KA-107 penicillinase inhibitory
 isolation, 222
 screening, 222
Kanamycin
 in vitro activity, 133
 minor components, 560
 production by carbon-nitrogen sources, 6
 production by *S. kanamyceticus*, 6

Klebsiella-Enterobacter
drug-resistant strains, 198
effect of antibiotics, 198

Klebsiella pneumoniae
use in rapid gentamicin bioassay, 569

Lactobacillus helveticus
bacteriocin from, 487

Lactose-fermenting enteric bacteria
rarephenicol effect on antibiotic resistance, 277

Lecithin membrane models, 309

Lincomycin
plus novobiocin effect on *E. coli* microbial generation, 626
S. pyogenes resistance, 327

Lipids
antibiotic effect on biosynthesis, 346

Liposomes
polyene toxicity, 309

Lividomycin
activity on protein synthesis in *E. coli*, 380
resistance in staphylocci by phosphorylation, 1

Lysine biosynthesis
in *S. lipmanii*, 542

Macrolide antibiotics
S. pyogenes resistance, 327

Maridomycin derivatives
antibacterial activity, 140, 149
chemical properties, 140, 149

6-Mercaptopurine
immunosuppressive effect, 495

Mitomycin C
immunosuppressive effect, 495

Monensin
biosynthesis, 410

Mycobacteria
transduction of isoniazid susceptibility-resistance, 643
transduction of streptomycin resistance, 643

Mycobacterium smegmatis
inhibition of ethambutol binding, 115

Mycobacterium tuberculosis
exposure to isoniazid, 62
protein synthesis, 205
streptomycin effect, 205

Mycoplasma pneumoniae
actinomycin D inhibition, 376

Myxococcus xanthus-produced antibody
bactericidal action, 507

Nalidixic acid
bactericidal effect on *Enterobacteriaceae*, 201
in combination with other antibiotics, 201
mechanism of action, 479
S. marcescens susceptibility, 532

Natural membranes
polyene toxicity for, 316

Neomycin
transmissible resistance in *R. japonicum*, 248

New adamantane compound, 421

Nitrofurantoin
compared with nitropyrazole, 343

Nitropyrazole
compared with nitrofurantoin, 343

Nocardia species
antimicrobial susceptibility, 85

Novobiocin
plus chloramphenicol effect on *E. coli* microbial generation, 626
plus erythromycin effect on *E. coli* microbial generation, 626
plus lincomycin effect on *E. coli* microbial generation, 626
plus tetracycline effect on *E. coli* microbial generation, 626

Penicillin G
transmissible resistance in *R. japonicum*, 248

Penicillinase
formation in protoplasts of *S. aureus*, 178
secretion in protoplasts of *S. aureus*, 178

Penicillinase inhibitor
KA-107, 222

Penicillinase-resistant penicillins
S. aureus susceptibility, 263

Peptidoglycan synthesis
antibiotic inhibitors, 231

Peptidyl-puromycin synthesis
effect of puromycin, 37

Phenoxyethyl penicillin
activity against *E. coli*, 354
activity against *Proteus*, 354

Phleomycin
effects on *E. coli* DNA, 320

Phosphorylation
of lividomycin, 1

Pysarum gyrosum
isolation and purification of antibiotic material, 160

Polyene antibiotic membrane toxicity, 309, 316

Polyhydric alcohol esters
antimicrobial action, 501

Potassium phenoxyethyl penicillin
compared with clindamycin palmitate, 514
use in streptococcal pharyngitis therapy, 514

Proflavine release
in *E. coli*, 332

Propionibacteria
sulfonamide resistance, 254

9-Propionylmaridomycin
in vitro antibacterial activity, 149
in vivo antibacterial activity, 156

Protein synthesis
in *M. tuberculosis*, 205
lividomycin activity on in *E. coli*, 380

Protein synthesis antibiotic inhibitors, 574

Proteus
ampicillin activity against, 354
benzyl penicillin activity against, 354
cephalothin activity against, 354
phenoxyethyl penicillin activity against, 354

Pseudomonas
resistance due to inactivated susceptibility disks, 646

Pseudomonas aeruginosa
susceptibility to carbenicillin, 281
susceptibility to colistin, 281

susceptibility to gentamicin, 281
 susceptibility to tobramycin, 281

Pseudomonas cepacia endocarditis
 trimethoprim-sulfamethoxazole treatment of, 551

Pseudomonas pseudomallei
 antibiotic susceptibility, 193

Purified protein virus
 rifampin effect on hypersensitivity, 607

Purines
E. coli growth inhibition, 125

Puromycin
 effect on peptidyl-puromycin synthesis, 37

Pyruvic and aspartic acid families
 effect on antibiotic production in *S. lipmanii*, 73
 isolation of their regulatory mutant, 73

Racephenoic
 effect on antibiotic resistance of bacteria, 277

Rhinovirus infection
 antiviral effect of 3,4-dihydro-1-isouquinoline acetamide hydrochloride in, 612

Rhizobium japonicum
 transmissible resistance to penicillin G, 248
 transmissible resistance to neomycin, 248
 transmissible resistance to chloramphenicol, 248

R-factor transfer
 in enteropathogenic *E. coli*, 459

Rifampin
 effect on hypersensitivity to purified protein virus, 607
 failure to inhibit frog virus multiplication, 372

Rubratoxin B
 antiprotozoal activity, 80

Salmonella
 sensitivity to sulfamethoxazole, 555
 sensitivity to trimethoprim, 555

Salmonella typhi
 strains resistant to ampicillin, 597
 strains resistant to chloramphenicol, 597

Serratia marcescens
 antibiograms, 66
 lipid contents, 66
 nonpigmented strains, 66
 pigmented strains, 66

Serratia marcescens
 nalidixic acid susceptibility, 532

Serum antibiotic concentrations
 postcardiopulmonary bypass, 270
 precardiopulmonary bypass, 270

Silver nitrate
 inactivation of *Herpesvirus hominus*, 259

Silver sulfadiazine
 in vitro antibacterial activity, 585

Staphylococcus aureus
 activity of aminoglycoside antibiotics against, 617
 bacteriocin from strain 462, 634
 bacteriocin production, 49
 susceptibility to penicillinase-resistant penicillins, 263
 temperature effect on susceptibility, 263

Streptococcal pharyngitis therapy
 comparison of clindamycin plamitate and potassium phenoxyethyl penicillin, 514

Streptococcus pyogenes
 resistance to lincomycin, 327
 resistance to macrolide antibiotics, 327

Streptomyces kanamyceticus
 for kanamycin production, 6

Streptomyces lipmanii
 lysine biosynthesis, 542

Streptomycin
 effect in susceptible and resistant strains of *M. tuberculosis*, 205
 synergism with ampicillin or vancomycin, 383
 transduction of resistance in mycobacteria, 643

Streptomycin-vancomycin
 synergism against enterococci, 120

Sulfamethoxazole
Salmonella sensitivity, 555

Sulfonamide
 resistance of propionibacteria, 254

Susceptibility disks
Pseudomonas resistance due to, 646

Tetracycline
 action on *S. aureus* strains, 237
E. coli strains resistant, 69
 plus novobiocin effect on *E. coli* microbial generation, 626

Tetracyclines
 detection of by high-speed liquid chromatography, 11
 separation of by high-speed liquid chromatography, 11

Ticarcillin
 clinical pharmacology, 31
 therapy of infections, 427

Tobramycin
 concentrations during peritoneal dialysis, 432
 in bronchial secretions, 299
P. aeruginosa susceptibility, 281

Trimethoprim
Salmonella sensitivity, 555

Trimethoprim-sulfamethoxazole
 treatment of *P. cepacia* endocarditis, 551

Tube dilution sensitivity test
 for aminoglycoside antibiotics, 445

Tubercle bacilli
 enumeration in sputum, 94

Urinary tract infections
 amoxicillin in treatment of, 25

Vaccinia virus peptides
 synthesis in the presence of isatin- β -thiosemicarbazone, 44

Vancomycin
 synergism with gentamicin or streptomycin, 383

Vancomycin-gentamicin
 synergism against enterococci, 120

Vancomycin-streptomycin
 synergism against enterococci, 120

Virazole
 effect against influenza viruses, 641

ANTIMICROBIAL AGENTS
AND
CHEMOTHERAPY

VOLUME 4

BALTIMORE, MD. 21202

1973

ANTIMICROBIAL AGENTS AND CHEMOTHERAPY

VOLUME 4 •

1973

EDITORIAL BOARD

GLADYS L. HOBBY, Editor-in-Chief (1975)

U. S. Veterans Administration and the Infectious Disease Research Institute, East Orange, N.J.

WALTER D. CELMER, Editor (1975)
Pfizer Inc., Groton, Conn.

JOEL G. FLAKS, Editor (1976)
University of Pennsylvania, Philadelphia

EDWARD W. HOOK, Editor (1976)
University of Virginia, Charlottesville

LEON H. SCHMIDT, Editor (1974)
Southern Research Institute, Birmingham, Ala.

Fred Allison, Jr. (1973)
Theodore Anderson (1973)
Robert Austrian (1974)
John Bennett (1973)
Konrad E. Bloch (1975)
E. Borowski (1973)
D. Buyske (1974)
Bernard E. Cabana (1975)
Yves Chabbert (1974)
Patricia Charache (1974)
Ernest Chick (1973)
Leighton E. Cluff (1974)
Kenneth W. Cochran (1975)
Frank Collins (1973)
John Corcoran (1974)
Julian Davies (1973)
Bernard Davis (1973)
Roger DesPrez (1973)
Liebor Ebringer (1974)
H. L. Ennis (1974)
David S. Feingold (1975)
Maxwell Finland (1973)
Robert J. Fitzgerald (1974)
Anthony J. Glazko (1975)
Harry Gooder (1973)

M. Gorman (1974)
H. Grisebach (1974)
Arthur P. Grollman (1975)
Jack Gwaltney (1974)
Fred Hahn (1973)
William Hewitt (1974)
Lillian V. Holdeman (1976)
Richard Hornick (1974)
Milton Huppert (1974)
George Gee Jackson (1974)
Keith Jensen (1974)
E. H. Kass (1973)
Donald Kaye (1973)
Wm. Kirby (1973)
Vernon Knight (1974)
Calvin Kunin (1975)
Mark Lepper (1974)
Robert G. Loudon (1974)
Thomas H. Maren (1974)
Lester Mitscher (1974)
S. Mitsuhashi (1974)
R. B. Morin (1973)
Bernard Moss (1975)
L. Nickell (1974)

T. J. Perun (1974)
Burton M. Pogell (1975)
K. E. Price (1973)
C. Reilly (1975)
R. W. Rickards (1974)
R. W. Riddell (1974)
Richard Roberts (1973)
L. Sabath (1973)
Arthur K. Saz (1973)
F. C. Sciavolino (1973)
Piero Sensi (1974)
Robert W. Sidwell (1975)
David Smith (1974)
Sigmund S. Socransky (1974)
Earle Spaulding (1974)
Gene Stollerman (1974)
R. Sutherland (1973)
Morton N. Swartz (1973)
Ralph Tompsett (1973)
John P. Utz (1973)
D. Vazquez (1974)
G. H. Wagman (1974)
B. Weisblum (1973)
Temple Williams (1973)

ROBERT A. DAY, Managing Editor, 1913 I St., N.W., Washington, D.C. 20006

EX OFFICIO

L. LEON CAMPBELL, President (1973-1974)
DONALD E. SHAY, Secretary

PHILIPP GERHARDT, Vice-President (1973-1974)
T. J. CARSKI, Treasurer

Antimicrobial Agents and Chemotherapy, a publication of the American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006, is devoted to the dissemination of knowledge relating to all aspects of antimicrobial agents and chemotherapy, including cancer chemotherapy. *Antimicrobial Agents and Chemotherapy* is published monthly, and the twelve numbers are divided into two volumes per year. The subscription price is \$40 (foreign, \$41) per year. Single copies are \$4.00 (foreign, \$4.25). Members of the American Society for Microbiology may receive *Antimicrobial Agents and Chemotherapy* as part of their dues. Correspondence relating to subscriptions, reprints, defective copies, availability of back issues, lost or late proofs, disposition of submitted manuscripts, and general editorial matters should be directed to the ASM Publications Office, 1913 I St.,

N.W., Washington, D.C. 20006 (area 202 833-9416). Correspondence from ASM members relating to membership dues, member subscriptions, changes of address, incorrect journals, etc., should be directed to the Executive Secretary, American Society for Microbiology, 1913 I St., N.W., Washington, D.C. 20006. Published monthly by the ASM at 428 E. Preston St., Baltimore, Md. 21202.

Second class postage paid at Washington, D.C. 20006, and at additional mailing offices.
Made in the United States of America.
Copyright © 1973, American Society for Microbiology
All Rights Reserved.

Volume 4

Contents for July

Number 1

Lividomycin Resistance in Staphylococci by Enzymatic Phosphorylation.	FUJIO KOBAYASHI, TOMOYUKI KOSHI, JUNJI EDA, YOKO YOSHIMURA, AND SUSUMU MITSUHASHI	1
Utilization of Carbon and Nitrogen Sources by <i>Streptomyces kanamyceticus</i> for Kanamycin Production.	KETAKI BASAK AND S. K. MAJUMDAR	6
Separation and Detection of Tetracyclines by High-Speed Liquid Chromatography.	A. G. BUTTERFIELD, D. W. HUGHES, N. J. POUND, AND W. L. WILSON	11
Effects of Temperature and of Fatty Acid Substitution on Colicin K Action.	C. A. PLATE	16
Clinical and Laboratory Evaluation of Amoxicillin (BRL 2333) in the Treatment of Urinary Tract Infections.	FRANCIS G. MIDDLETON, DONALD M. PORETZ, AND RICHARD J. DUMA	25
Clinical Pharmacology of Ticarcillin (α -Carboxyl-3-Thienylmethyl Penicillin, BRL-2288).	VICTORIO RODRIGUEZ, JIRO INAGAKI, AND GERALD P. BODEY	31
Effect of Puromycin Analogues and Other Agents on Peptidyl-Puromycin Synthesis on Polyribosomes.	SIDNEY PESTKA, ROBERT VINCE, SUSAN DALUGE, AND RAYMOND HARRIS	37
Synthesis of Vaccinia Virus Polypeptides in the Presence of Isatin- β -Thiosemicarbazone.	EHUD KATZ, EVA MARGALITH, BELA WINER, AND NATAN GOLDBLUM	44
Characterization and Extrachromosomal Control of Bacteriocin Production in <i>Staphylococcus aureus</i> .	A. M. JETTEN AND G. D. VOGELS	49
5-Fluorocytosine in the Treatment of Experimental Candidiasis in Immunosuppressed Mice.	JEANNE A. LINQUIST, SERGIO RABINOVICH, AND IAN M. SMITH	58
Scanning Electron Microscopy of the H37Ra Strain of <i>Mycobacterium tuberculosis</i> Exposed to Isoniazid.	KUNI TAKAYAMA, LYNN WANG, AND RICHARD S. MERKAL	62
Antibiograms and Lipid Contents of Pigmented and Nonpigmented Strains of <i>Serratia marcescens</i> .	MARCIA A. MILLER, CHUAN-YI CHANG, AND JOSEPH C. TSANG	66
Effect of Oral Tetracycline on the Occurrence of Tetracycline-Resistant Strains of <i>Escherichia coli</i> in the Intestinal Tract of Humans.	DWIGHT C. HIRSH, GLENNA C. BURTON, AND DONALD C. BLENDEN	69
Erratum		72

Volume 4

Contents for August

Number 2

Isolation of Regulatory Mutants of the Aspartic and Pyruvic Acid Families and Their Effect on Antibiotic Production in <i>Streptomyces lipmanii</i> .	OTIS W. GODFREY	73
Antiprotozoal Activity of Rubratoxin B.	A. WALLACE HAYES	80
Antimicrobial Susceptibility of <i>Nocardia</i> Species.	PHILLIP I. LERNER AND GERALD L. BAUM	85
Enumeration of Tubercle Bacilli in Sputum of Patients with Pulmonary Tuberculosis.	GLADYS L. HOBBY, AUDREY P. HOLMAN, MICHAEL D. ISEMAN, AND JULIA M. JONES	94
Inhibition of Granulocyte-Macrophage Colony Formation In Vitro by Substituted Isatin Thiosemicarbazones.	T. A. MCNEILL	105
Mechanism of Synergistic Effects of β -Lactam Antibiotic Combinations on Gram-Negative Bacilli.	W. EDMUND FARRAR, JR., AND JANE K. NEWSOME	109
Nonspecific Ionic Inhibition of Ethambutol Binding by <i>Mycobacterium smegmatis</i> .	WILLIAM H. BEGGS AND FRED A. ANDREWS	115

Synergism of Vancomycin-Gentamicin and Vancomycin-Streptomycin Against Enterococci. CHATRCHAI WATANAKUNAKORN AND CHERYL BAKIE.....	120
Use of <i>Escherichia coli</i> Mutants to Evaluate Purines, Purine Nucleosides, and Analogs. DONALD L. HILL AND ROBERT F. PITILLO.....	125
Comparative In Vitro Activity of Three Aminoglycosidic Antibiotics: BB-K8, Kanamycin, and Gentamicin. PAULINE K. W. YU AND JOHN A. WASHINGTON II.....	133
Chemical Modification of Maridomycin, a New Macrolide Antibiotic. SETSUO HARADA, MASAYUKI MUROI, MASAHIRO KONDO, KANJI TSUCHIYA, TAI MATSUZAWA, TAKESHI FUGONO, TOYOKAZU KISHI, AND JISABURO UEYANAGI.....	140
Maridomycin, a New Macrolide Antibiotic: In Vitro Antibacterial Activity of 9-Propionylmaridomycin. MASAHIRO KONDO, TOKIKO OISHI, KANJI TSUCHIYA, SACHIKO GOTO, AND SHOGO KUWAHARA.....	149
Maridomycin, a New Macrolide Antibiotic: In Vivo Antibacterial Activity of 9-Propionylmaridomycin. MASAHIRO KONDO, KIYOSHI ISHIFUJI, KANJI TSUCHIYA, SACHIKO GOTO, AND SHOGO KUWAHARA.....	156
Isolation and Purification of Antibiotic Material from <i>Physarum gyrosum</i> . H. R. SCHROEDER AND M. F. MALLETT.....	160
Reconstitution of Colicin E ₂ -Induced Deoxyribonucleic Acid Degradation in Spheroplast Preparations. R. ALMENDINGER AND L. P. HAGER.....	167
Formation and Secretion of Induced Penicillinase in Protoplasts of <i>Staphylococcus aureus</i> . N. W. COLES AND R. GROSS.....	178
In Vitro Studies of BB-K8, a New Aminoglycoside Antibiotic. GERALD P. BODEY AND DOROTHY STEWART.....	186
Antibiotic Susceptibility of <i>Pseudomonas pseudomallei</i> . WENDELL H. HALL AND ROBERT E. MANION.....	193
Fluid and Pharmacological Dynamics in a Subcutaneous Chamber Implanted in Rats. WILLIAM G. GARDNER, RICHARD B. PRIOR, AND ROBERT L. PERKINS.....	196
Drug-Resistant <i>Escherichia coli</i> and <i>Klebsiella-Enterobacter</i> in Healthy Adults in Thailand and the Effect of Antibiotic Administration. CHAWEWAN KOONKHAMLERD AND WILLIAM D. SAWYER.....	198

Volume 4 Contents for September Number 3

Bactericidal Effect of Combinations of Nalidixic Acid and Various Antibiotics on <i>Enterobacteriaceae</i> . J. MICHEL, R. LUBOSHITZKY, AND T. SACKS.....	201
Protein Synthesis in <i>Mycobacterium tuberculosis</i> H37Rv and the Effect of Streptomycin in Streptomycin-Susceptible and -Resistant Strains. M. S. SHAILA, K. P. GOPINATHAN, AND T. RAMAKRISHNAN.....	205
Bacteriocin of a Group A Streptococcus: Partial Purification and Properties. J. R. TAGG, R. S. D. READ, AND A. R. McGIVEN.....	214
Screening and Isolation of Penicillinase Inhibitor, KA-107. Y. IWAI, H. OHNO, H. TAKESHIMA, N. YAMAGUCHI, S. ÔMURA AND T. HATA.....	222
In Vitro and In Vivo Activity of Penicillinase Inhibitor KA-107 Against <i>Staphylococcus aureus</i> FS 1277. H. OHNO, A. MATSUMAE, Y. IWAI, M. NAKAE, S. ÔMURA, AND T. HATA.....	226
Additional Antibiotic Inhibitors of Peptidoglycan Synthesis. PAUL E. LINNETT AND JACK L. STROMINGER.....	231
Action of 12 Tetracyclines on Susceptible and Resistant Strains of <i>Staphylococcus aureus</i> . DAVID SOMPOLINSKY AND JUDITH KRAUSZ.....	237
Transmissible Resistance to Penicillin G, Neomycin, and Chloramphenicol in <i>Rhizobium japonicum</i> . MICHAEL A. COLE AND GERALD H. ELKAN.....	248
Sulfonamide Resistance of Propionibacteria: Nutrition and Transport. M. S. REDDY, F. D. WILLIAMS, AND G. W. REINBOLD.....	254
Inactivation of <i>Herpesvirus hominis</i> Types 1 and 2 by Silver Nitrate in Vitro and In	

VIVO. V. R. COLEMAN, J. WILKIE, W. E. LEVINSON, T. STEVENS, AND E. JAWETZ.....	259
Effect of Temperature on the In Vitro Susceptibility of <i>Staphylococcus aureus</i> to Penicillinase-Resistant Penicillins. CLYDE THORNSBERRY, J. Q. CARUTHERS, AND CAROLYN N. BAKER.....	263
Serum Antibiotic Concentrations Pre- and Postcardiopulmonary Bypass. RONICA M. KLUGE, FRANK M. CALIA, JOSEPH S. McLAUGHLIN, AND RICHARD B. HORNICK.....	270
Effect of Racphenicol on Antibiotic Resistance of Lactose-Fermenting Enteric Bacteria in Chickens. LARRY D. ROLLINS, DOROTHY W. POCURULL, AND STEVEN REYNOLDS.....	277
Studies on the Susceptibility of 150 Consecutive Clinical Isolates of <i>Pseudomonas</i> <i>aeruginosa</i> to Tobramycin, Gentamicin, Colistin, Carbenicillin, and Five Other Antimicrobials. W. R. LOCKWOOD AND LUCY A. LAWSON.....	281
Comparative Activity of Amoxycillin and Ampicillin in an Experimental Bacterial Infection in Mice. PAMELA A. HUNTER, G. N. ROLINSON, AND DOREEN A. WITTING.....	285
Antiviral Effects of Aphidicolin, a New Antibiotic Produced by <i>Cephalosporium</i> <i>aphidicola</i> . R. A. BUCKNALL, H. MOORES, R. SIMMS, AND B. HESP.....	294
Tobramycin in Bronchial Secretions. JAMES E. PENNINGTON AND HERBERT Y. REYNOLDS.....	299
Amphotericin B Therapy in an Anephric Patient. HARVEY A. FELDMAN, JOHN D. HAMILTON, AND ROBERT A. GUTMAN.....	302
Chemotherapeutic Activity of 5-Fluorocytosine and Amphotericin B Against <i>Candida</i> <i>albicans</i> in Mice. E. TITSWORTH AND E. GRUNBERG.....	306
Selective Membrane Toxicity of the Polyene Antibiotics: Studies on Lecithin Mem- brane Models (Liposomes). CHUEN-CHIN HSU-CHEN AND DAVID S. FEINGOLD.....	309
Selective Membrane Toxicity of the Polyene Antibiotics: Studies on Natural Mem- branes. CHUEN-CHIN HSU-CHEN AND DAVID S. FEINGOLD.....	316
Phleomycin-Stimulated Degradation of Deoxyribonucleic Acid in <i>Escherichia coli</i> . LARRY FARRELL AND HARVARD REITER.....	320
Inducible and Constitutive Resistance to Macrolide Antibiotics and Lincomycin in Clinically Isolated Strains of <i>Streptococcus pyogenes</i> . SYLVIA LUBNA HYDER AND MURRAY M. STREITFIELD.....	327
Effects of Energy Metabolism on the Release of Bound Proflavine from Sensitive and Resistant <i>Escherichia coli</i> . BIPIN M. MEHTA, M. JOAN GRAVELLE, AND DONN J. KUSHNER.....	332
Selective Filtration of Antibiotics Through Collodion Membranes. MICHAEL BARZA, MICHEL G. BERGERON, JOHN BRUSCH, AND LOUIS WEINSTEIN.....	337
New Synthetic Antibacterial Compound, 1-(2-Hydroxyethyl)-3-Nitro-4-Pyrazole- carboxamide. W. E. WICK, D. A. PRESTON, N. H. TERANDO, J. S. WELLES, AND R. S. GORDEE.....	343
Regulation of the Bacterial Cell Wall: Effect of Antibiotics on Lipid Biosynthesis. BRUCE H. HEBELER, ANADI N. CHATTERJEE, AND FRANK E. YOUNG.....	346
In Vitro Activity of Cephalothin and Three Penicillins Against <i>Escherichia coli</i> and <i>Proteus</i> Species. ARTHUR L. BARRY AND PAUL D. HOEPFRICH.....	354
Serum and Urinary Concentrations of Cyclacillin in Humans. C. G. HERTZ.....	361
Pharmacodynamics of Cefazolin in the Presence of Normal and Impaired Renal Func- tion. MICHAEL F. REIN, FREDERIC B. WESTERVELT, AND MERLE A. SANDE.....	366
Failure of Rifampin to Inhibit Frog Polyhedral Cytoplasmic Deoxyribovirus Multipli- cation. LOUIS S. KUCERA.....	372
Inhibition of <i>Mycoplasma pneumoniae</i> by Actinomycin D. RONALD D. FLETCHER, CHINRUDEE JAYAVASU, SUNGWAHOH YOO, AND JOHN N. ALBERTSON.....	376
Lipid Composition of Gram-Negative Bacteria, Sensitive and Resistant to Strepto- mycin. ELIZABETH A. BISHOP AND MARGARET A. C. BIRMINGHAM.....	378
Mode of Action of Lividomycin on Protein Synthesis in <i>Escherichia coli</i> . MASAHITO YAMAGUCHI, JUNJIEDA, FUJIO KOBAYASHI, AND SUSUMU MITSUHASHI.....	380

Volume 4**Contents for October****Number 4**

In Vitro Activity of Ampicillin or Vancomycin Combined with Gentamicin or Streptomycin Against Enterococci. HERBERT J. HARWICK, GEORGE M. KALMANSON, AND LUCIEN B. GUZE.....	383
Differences in the Growth of <i>Aspergillus fumigatus</i> on Cycloheximide Media at Three Temperatures. CAROLE L. BERGER, W. G. MERZ, AND MARGARITA SILVA-HUTNER.....	388
Variables Influencing Susceptibility Testing of <i>Cryptococcus neoformans</i> to 5-Fluorocytosine. EDWARD R. BLOCK, ANNE E. JENNINGS, AND JOHN E. BENNETT.....	392
Bactericidal Activity and Pharmacology of Cefazolin. MICHEL G. BERGERON, JOHN L. BRUSCH, MICHAEL BARZA, AND LOUIS WEINSTEIN.....	396
Structure-Activity Relationships Among the Aminoglycoside Antibiotics: Role of Hydroxyl and Amino Groups. R. BENVENISTE AND J. DAVIES.....	402
Biosynthesis of Monensin. L. E. DAY, J. W. CHAMBERLIN, E. Z. GORDEE, S. CHEN, M. GORMAN, R. L. HAMILT, T. NESS, R. E. WEEKS, AND R. STROSHANE.....	410
Compound 64716, a New Synthetic Antibacterial Agent. W. E. WICK, D. A. PRESTON, W. A. WHITE, AND R. S. GORDEE.....	415
In Vitro Antiviral Activity and Preliminary Clinical Trials of a New Adamantane Compound. ASHA MATHUR, A. S. BEARE, AND SYLVIA E. REED.....	421
Ticarcillin Therapy of Infections. VICTORIO RODRIGUEZ, GERALD P. BODEY, NOBORU HORIKOSHI, JIRO INAGAKI, AND KENNETH B. MCCREDIE.....	427
Tobramycin Concentrations During Peritoneal Dialysis. ALLAN J. WEINSTEIN, ADOLF W. KARCHMER, AND ROBERT C. MOELLERING, JR.....	432
Antifungal Properties of 2-Alkenoic Acids and 2-Bromo Alkanoic Acids. HERMAN GERSHON, MAYNARD W. MCNEIL, RAULO PARMEGANI, PATRICIA K. GODFREY, AND JANICE M. BARICKO.....	435
Antiviral Activity of Cytarabine in Herpesvirus-Infected Rats. HAROLD E. RENIS.....	439
Interrelationship Between Disk and Tube Dilution Sensitivity Tests for the Aminoglycoside Antibiotics Gentamicin, Kanamycin, Sisomicin, and Tobramycin. J. ALLAN WAITZ.....	445
Use of the 295- to 300-Nanometer Circular Dichroism Trough of Ribonucleic Acid for Study of Helix Winding: Effect of Acridine Orange. BETTY-ANN HOENER, THEODORE D. SOKOLOSKI, AND LESTER A. MITSCHER.....	455
Transferable Antibiotic Resistance in Enteropathogenic <i>Escherichia coli</i> Between 1948 and 1968. B. SLOCOMBE AND R. SUTHERLAND.....	459
Effects of Phosphonic Acid Analogs of Glycerol-3-Phosphate on the Growth of <i>Escherichia coli</i> : Phospholipid Metabolism. CHARLES S. SHOPSIS, WILLIAM D. NUNN, ROBERT ENGEL, AND BURTON E. TROPE.....	467
Synthesis of Cephalosporin C from Sulfate by Mutants of <i>Cephalosporium acremonium</i> . H. F. NISS AND C. H. NASH III.....	474
Studies on the Mechanism of Action of Nalidixic Acid. GERARD J. BOURGUIGNON, MARTIN LEVITT, AND ROLF STERNGLANZ.....	479
Isolation and Characterization of a Bacteriocin from a Homofermentative <i>Lactobacillus</i> . G. C. UPRETI AND R. D. HINDSILL.....	487
Immunosuppressive Effect of 6-Mercaptopurine and Mitomycin C. JAMES A. MAJESKI AND B. THEODORE COLE.....	495
Enzymatic Acetylation as a Means of Determining Serum Aminoglycoside Concentrations. MICHAEL J. HAAS AND JULIAN DAVIES.....	497
Erratum.....	500

Volume 4**Contents for November****Number 5**

Antimicrobial Action of Esters of Polyhydric Alcohols. ANTHONY J. CONLEY AND JON J. KABARA.....	501
---	-----

Bactericidal Action of an Antibiotic Produced by <i>Myxococcus xanthus</i> . E. ROSENBERG, B. VAKS, AND A. ZUCKERBERG.....	507
Streptococcal Pharyngitis Therapy: Comparison of Clindamycin Palmitate and Potassium Phenoxyethyl Penicillin. MAXWELL STILLERMAN, HENRY D. ISENBERG, AND RICHARD R. FACKLAM.....	514
Natural Colistin Resistance in <i>Edwardsiella tarda</i> . T. MUYEMBE, J. VANDEPITTE, AND J. DESMYTER.....	521
Clinical Studies of Cefazolin and Comparison with Other Cephalosporins. T. MADHAVAN, EDWARD L. QUINN, EARL FREIMER, EVELYN J. FISHER, FRANK COX, KEITH BURCH, AND DONALD POHLOD.....	525
Nalidixic Acid Susceptibility Testing of Clinical Isolates of <i>Serratia marcescens</i> . J. D. JOLICK, ELLA M. SCHERVISH-SWIERSKOSZ, AND W. J. BROWN.....	532
Pharmacology of Gentamicin in the Biliary Tract of Humans. J. MENDELSON, J. PORTNOY, AND H. SIGMAN.....	538
Lysine Biosynthesis in <i>Streptomyces lipmanii</i> : Implications in Antibiotic Biosynthesis. J. R. KIRKPATRICK, L. E. DOOLIN, AND O. W. GODFREY.....	542
Successful Treatment of <i>Pseudomonas cepacia</i> Endocarditis with Trimethoprim-Sulfamethoxazole. JOHN HAMILTON, WARNER BURCH, GARFIELD GRIMMETT, KIRBY ORME, DAVID BREWER, RICHARD FROST, AND CONRAD FULKERSON.....	551
In Vitro Sensitivity of <i>Salmonella</i> to Ten Antimicrobial Agents Including Sulfamethoxazole and Trimethoprim, Alone and in Combination. MELVIN I. MARKS, M. KAZEMI, AND ELAINE MACKAY.....	555
Isolation and Identification of Minor Components of Commercial Kanamycin. PAUL J. CLAES, HUBERT VANDERHAEGHE, AND FRANS COMPERNOLLE.....	560
Synergism of Carbenicillin and Gentamicin Against Enterococci. ROBERT D. LIBKE, CLAUDE REGAMEY, JOHN T. CLARKE, AND WILLIAM M. M. KIRBY.....	564
Rapid Gentamicin Bioassay Using a Multiple-Antibiotic-Resistant Strain of <i>Klebsiella pneumoniae</i> . MARLYS E. LUND, DONNA J. BLAZEVIC, AND JOHN M. MATSEN.....	569
Microbial Kinetics and Dependencies of Individual and Combined Antibiotic Inhibitors of Protein Biosynthesis. EDWARD R. GARRETT AND SAMUEL M. HEMANS-ACKAH.....	574
Silver Sulfadiazine: In Vitro Antibacterial Activity. HOWARD S. CARR, THEODORE J. WLODKOWSKI, AND HERBERT S. ROSENKRANZ.....	585
Erratum.....	588

Volume 4

Contents for December

Number 6

Pharmacokinetics of Cephanone in Healthy Adult Volunteers. CLAUDE REGAMEY AND WILLIAM M. M. KIRBY.....	589
Double-Blind Comparison of Carbenicillin Indanyl Sodium, Ampicillin, and Cephalexin in Treatment of Urinary Tract Infection. KRISTEN M. RIES, C. GLENN COBBS, JAY Y. GILLENWATER, MATTHEW E. LEVISON, GERALD L. MANDELL, MERLE A. SANDE, AND DONALD KAYE.....	593
<i>Salmonella typhi</i> Resistant to Chloramphenicol, Ampicillin, and Other Antimicrobial Agents: Strains Isolated During an Extensive Typhoid Fever Epidemic in Mexico. JORGE OLARTE AND EMMA GALINDO.....	597
Binding of Gentamicin and Other Aminoglycoside Antibiotics to Mycelium of Various Actinomycetes. W. J. REIBLEIN, P. D. WATKINS, AND G. H. WAGMAN.....	602
Effect of Rifampin on Cutaneous Hypersensitivity to Purified Protein Derivative in Humans. P. MUKERJEE, S. SCHULDT, AND J. E. KASIK.....	607
Antiviral Effect of 3,4-Dihydro-1-Isoquinolineacetamide Hydrochloride in Experimental Human Rhinovirus Infection. YASUSHI TOGO, ANDREW R. SCHWARTZ, AND RICHARD B. HORNICK.....	612
Activity of Five Aminoglycoside Antibiotics In Vitro Against Gram-Negative Bacilli and <i>Staphylococcus aureus</i> . LOWELL S. YOUNG AND WILLIAM L. HEWITT.....	617

Effect of Novobiocin and Its Combination with Tetracycline, Chloramphenicol, Erythromycin, and Lincomycin on the Microbial Generation of <i>Escherichia coli</i> . EDWARD R. GARRETT AND CHONG MIN WON	626
Characterization of a Bacteriocin from <i>Staphylococcus aureus</i> Strain 462. E. M. HALE AND R. D. HINSDILL	634
In Vitro Effect of Virazole Against Influenza Viruses. YASUSHI TOGO	641
Transduction of Isoniazid Susceptibility-Resistance and Streptomycin Resistance in Mycobacteria. D. SAROJA AND K. P. GOPINATHAN	643
<i>Pseudomonas</i> Resistance Due to Inactivated Susceptibility Disks. LEWIS J. GRIFFITH	646
Stability of Amphotericin B in Infusion Bottles. EDWARD R. BLOCK AND JOHN E. BENNETT	648

INDEX TO DATE OF ISSUE

Month	Date of Issue	Pages
July	7 August 1973	1-72
August	23 August 1973	73-200
September	24 September 1973	201-382
October	25 October 1973	383-500
November	26 November 1973	501-588
December	21 December 1973	589-650

